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The Goulstonian Lectures

ON

THE INFLUENCE OF PREGNANCY UPON CERTAIN MEDICAL DISEASES, AND OF CERTAIN MEDICAL DISEASES UPON PREGNANCY.

Delivered before the Royal College of Physicians of London on March 17th, 19th, and 24th, 1908,

BY HERBERT FRENCH, M.A., M.D. OXON., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO GUY'S HOSPITAL.

LECTURE II.[1]

Delivered on March 19th.

OTHER SUPPURATIVE RENAL AFFECTIONS IN RELATION TO PREGNANCY.—TUBERCULOUS AND CALCULOUS DISEASES.

MR. PRESIDENT AND GENTLEMEN,—The pyelonephritis which pregnancy itself gives rise to having been discussed, there remain two other suppurative renal affections to be mentioned. These are the various degrees of kidney mischief that may be due to stone and to tuberculosis respectively. There is little evidence to show that pregnancy is itself liable to give rise to either of these, and in the case of a tuberculous kidney the patient is, as a rule, so invalided that pregnancy is but rarely to be found associated with it. There has been no case of pregnancy coincident with tuberculous kidney in Guy's Hospital in the last 20 years. With renal calculus, on the other hand, the symptoms may be in abeyance for longer or shorter periods and the patient is not necessarily such an invalid that pregnancy may not occur. The question will then arise as to what the effect upon the kidney is likely to be in such a case. It is clear that if a previously healthy woman may develop pyelonephritis during pregnancy, as described in the previous lecture, a woman who already has a lesion which also predisposes to pyuria must be in a position of increased danger when pregnancy occurs. On the other hand, the degree to which the kidney, or kidneys, may be already damaged by the calculi is so extremely variable that it is almost impossible to say what is going to happen when such a case comes under observation. If the calculus is a small one confined to the renal pelvis, the general substance of the kidney being but little affected, it is quite possible for the pregnancy to run its course without any trouble arising from it at all. If the stones are confined to one kidney and have led to its conversion into a hydronephrotic bag the other kidney may have hypertrophied by way of compensation, and the effect of pregnancy will be similar to that in cases where, after operation, only one kidney is left—a point to be mentioned again below.

Colic and hæmaturia may occur in either of these cases, just as they may in non-pregnant persons. Treatment should then be directed to the renal condition, and the probability is that the untoward symptoms will subside and that the pregnancy will run its natural course, as was the case in six out of seven patients in the hospital. On the other hand, a patient with a renal calculus that is already causing suppurative inflammation of the kidney is bound to be a source of grave anxiety to her medical attendant should she become pregnant, especially from the fifth month onwards, that is to say during the time when there is particular liability for the pregnancy itself to cause pyelonephritis. It is doubtless possible by keeping the patient at rest, by preventing constipation or diarrhœa, and by administering anti-pyuric remedies, to enable her to reach her full term of pregnancy; but there are cases in which the suppuration in the kidney will become worse, and the question will arise as to whether or not obstetric measures for terminating the pregnancy should be advised. One of the seven cases alluded to above proved fatal; it may probably be regarded as one in which pregnancy was the main cause of death by leading to a pyelonephritis upon the top of calculous disease. The following are brief details of the case:—

The patient was a young woman who had had pain in her right loin which in view of the subsequent events was doubtless due to a calculus. She was otherwise in excellent health. She married and remained well until she was five and a half months pregnant. She then began to suffer from aching pains across her loins and from repeated vomiting. There was no œdema but the urine was found to contain 5 parts per 1000 of albumin, with a fair number of renal tube casts, red corpuscles, and a considerable excess of leucocytes. Day by day the leucocytes in the urine became more numerous until they amounted to pus, and the quantity of pus rapidly increased until there was no doubt about there being a progressive suppurative nephritis. No tubercle bacilli were found in the deposit. The urea still amounted to 1·7 per cent., but the patient became steadily worse, vomiting on the slightest exertion and after all food. There was no pyrexia such as there nearly always is in cases of ordinary pyelonephritis of pregnancy and there were no rigors. The bladder became infected by acute cystitis and the question of recommending obstetric measures for emptying the uterus had arisen, when spontaneous delivery of a living female child occurred at the seventh month. The patient's general condition improved for three days afterwards, though no day passed without the occurrence of vomiting. The latter then increased in severity; drowsiness with muttering delirium and hallucinations set in, with incontinence of urine; and on the fifth day after labour the patient became comatose and died without convulsions.

At the necropsy the only abnormal organs were the kidneys and the bladder. The uterus was perfectly healthy. Both kidneys were in a state of pyonephrosis, with secondary suppurative pyelonephritis, and in the pelvis of each there were numerous irregular calculi of oxalate of lime coated with white phosphates. The ureters were but slightly dilated. The bladder was in a condition of acute cystitis without ulceration.

Apparently the sequence of events had been: renal calculi, hydronephroses, pregnancy, microbial infection of the kidneys, pyonephroses, suppurative pyelonephritis, cystitis, uræmia, death. Unfortunately no exhaustive bacteriological examinations of the urine were made. One would not be surprised, in view of what has been already said in connexion with the pyelonephritis of pregnancy, if the micro-organism had been the bacillus coli communis in pure culture. This is a point for investigation in future cases.

NON-SUPPURATIVE RENAL AFFECTIONS IN RELATION TO PREGNANCY.

We may now pass on to consider the non-suppurative lesions of the kidney in their relation to pregnancy, and although these constitute a very big subject, and one which might easily occupy many lectures, it will be best to touch only upon a few points of it here because there is already a great deal of literature upon the matter, much of which is easily accessible to all.

There is still a good deal of discrepancy in the views held by different observers as to the nature of the lesions in question, for whereas some pathologists describe them as inflammatory others insist that they are not so but are rather acute toxic degenerations of the renal cells.

Clinical groups.—Clinically there are three quite distinct groups of cases which some would distinguish from one another in kind as well as in type. 1. The cases in which renal mischief of the nature of Bright's disease has been known to exist previously to pregnancy. 2. The cases in which, previously to pregnancy, the urine was perfectly healthy and no previous attack of Bright's disease had occurred; but in whom during pregnancy, and beginning, as a rule, at or before the middle of the pregnancy, puffiness of the ankles, back, and eyelids appears, the urine at the same time becoming less in quantity and containing albumin, renal tube casts, and possibly blood, in a way which closely simulates ordinary acute Bright's disease. For the sake of brevity these are referred to as the "œdema cases." 3. The cases in which the patient has seemed to be in perfect health until the later months of pregnancy, or even until immediately after labour, and then without much warning and usually with only slight evidences of œdema develops the well-known symptoms of puerperal eclampsia. It is not at all improbable that there is a fourth clinical variety of renal disease that has a relationship to pregnancy—namely, the granular contracted kidney. It is very difficult to prove or to disprove this, because even if a granular contracted kidney in a given case owes its inception to renal trouble arising during pregnancy the patient can still continue to live for many years without untoward symptoms, and by the time death occurs there will be nothing in the post-mortem examination to show either how long the renal mischief has been present or how this mischief first began.

Recurrent obstruction to ureters is a potent cause of renal fibrosis and it is conceivable that many successive pregnancies may lead to sclerosis of the kidneys without there having been any of the symptoms of acute Bright's disease. I have accumulated some evidence to show that not only pregnancy but also pathological affections of the pelvic organs, such as prolapse of the uterus, may lead to fibrotic kidneys, with hypertrophy of the left ventricle of the heart, and all the other changes that are usually associated with

[1] Lecture I. was published in THE LANCET of May 2nd, 1908, p. 1257.

red granular kidney, even including cerebral hæmorrhage. The data, however, are not yet complete, so that it will be best to leave the red granular kidney out of the question now under discussion and to confine attention to the three different clinical types of renal disease mentioned above.

First in regard to pregnancy arising in a patient known to have Bright's disease at the time conception occurred. It is so clear that pregnancy is apt to have a deleterious effect upon the kidneys that it is manifestly unwise for a girl or woman with existing nephritis to get married. If the urine already contains both albumin and renal tube casts, there is a great risk that pregnancy will make the condition far worse and accelerate the end. The surprising thing is that some patients known to have persistent Bright's disease before pregnancy sometimes live to bear many children, even in spite of exacerbations of their renal symptoms during pregnancy. Such cases are exceptional, no doubt, but on going through the hospital records one finds several of this kind. In one there had been all the signs of chronic tubal nephritis for 13 years, the patient had been married for eight years, she had borne five children, and bore a sixth alive at term in the hospital. This was not a case of recurrent acute nephritis but of persistence of both albuminuria and tube casts; it is the more remarkable in that, even without the additional strain of pregnancy, it is unusual for a patient with such a renal condition to survive so long. Such an exceptional case merely shows that both pregnancy and survival may occur in a case of chronic Bright's disease; it does not follow that medical advice should not be against marriage in other cases of the kind.

There now remain the two groups of cases in which the renal disease is directly attributable to pregnancy—namely, those who develop renal œdema in the middle months and those who develop eclampsia at the end. The fact that these two forms of renal disease are really attributable to the pregnancy is so well established that it needs no discussion. In the majority of the cases both albumin and renal tube casts disappear from the urine in a remarkable way when the pregnancy has terminated. Clinically, the two types are so different that many authorities regard them as absolutely distinct renal affections; and some hold that both these two forms, besides differing from one another, are also entirely different from those renal affections which arise from other causes and which are usually grouped together under the title acute or subacute Bright's disease. It is very probable that the question of whether these pregnancy kidneys are really forms of Bright's disease or not will remain a matter upon which there will always be differences of opinion. The extent to which opinions differ at present is well exemplified in Sir T. Clifford Allbutt's "System of Medicine," where the accounts given in different volumes by such authorities as Dr. G. E. Herman and Dr. W. Howship Dickinson respectively, are remarkably at variance. Speaking of the morbid anatomy and histology of the kidneys in the two types of disease under discussion, Dr. Herman says of the first—namely, that in which œdema of ankles and eyelids in the earlier months is the main symptom—which he calls the "chronic renal disease of pregnancy":—

> We know nothing of the morbid anatomy of this chronic disease, for it is not fatal. The morbid changes in the kidney can only be found out by examining the kidneys of a pregnant woman who, having the disease, died from some accidental cause, and I know of no such record. A few necropsies have been published, but the accounts are not harmonious, for the evident reason that the patients who died were suffering from forms of renal disease such as occur independently of pregnancy and not from that which depends upon pregnancy.

This does not seem to be altogether fair, for it is as much as to say: "The chronic renal disease of pregnancy is different from that of chronic tubal nephritis due to other causes; therefore, if at a necropsy made upon a patient dying pregnant, or recently pregnant, lesions resembling chronic tubal nephritis are found, the nephritis is not that which pregnancy causes." It appears to be an argument in a circle in which the conclusion that is drawn is also one of the premisses of the syllogism.

Dr. Howship Dickinson, on the other hand, writes very differently. He says:—

> The changes which occur in the kidney as consequences of pregnancy may be briefly indicated. They are the changes of heart disease and something more. To passive congestion is superadded an acute inflammation. In an early stage there is much hyperæmia, with obvious fulness of vessels, general redness, and some increase of size. In a case destined to further trouble, a somewhat peculiar form of diffuse nephritis succeeds; the tubes become loaded with epithelium which early takes on fatty change and imparts a yellowish colour, in streaks or otherwise, to the section. The fatty change is not limited to the epithelium, but may be somewhat general. The tubal change is accompanied or quickly followed by interstitial contractile growth, with consequent compression of the tubes, particularly near the surface, and superficial granulation. The condition is one of general nephritis, upon which granular contraction ensues with inordinate rapidity. So early does the contractile process become superadded to, or intermixed with, that of inflammatory swelling that the more bulky results of renal inflammation are excluded; the large white kidney does not, under these circumstances, present itself. The early access of inflammatory change would seem to imply that other causes are at work beside the mechanical, and that these are analogous to those to which other forms of nephritis have been traced. It has been suggested that the kidneys are irritated by some product of pregnancy, possibly an excrementitious result of fœtal nutrition. The conjunction of the two morbid agencies, the mechanical and the vital, may account for the greater activity of the disease as compared with the granular kidney of other origin. The puerperal kidney has a mixed nature; it is one of diffuse nephritis, upon which granular contraction is rapidly superimposed.

Referring now to the kidneys found at necropsies in cases of fatal puerperal eclampsia, Dr. Herman says:—

> Very different conditions of kidney have been found. A comparison of the different accounts that have been published shows that they may be divided into three groups. First, disease of the kidney such as may occur apart from pregnancy, ... such as lardaceous disease, hydronephrosis, or dilatation of the ureters and renal pelves. Secondly, in most cases there are changes in the kidneys which to the naked eye resemble those of acute or chronic tubular nephritis. Thirdly, in some cases the kidneys have shown no sign of disease appreciable by the unaided senses. When these kidneys, either those looking like kidneys with acute and chronic nephritis, or those which look healthy, are examined with the microscope, the changes are not those of inflammation but a degeneration like that which is seen in blood poisoning.

These changes have been variously described by various authors, the following being some of the descriptions. Professor Hamilton says:—

> Judging from the naked-eye appearances we expected that parenchymatous inflammation of the tubular epithelium in the cortex, passing into a state of fatty degeneration, would be revealed. The first glance at a section of the organ, however, showed conclusively that this was not the case and that the lesion was not an ordinary parenchymatous inflammation. It consisted of degeneration of the epithelial cells of a certain proportion of the tubules in the circumferential aspect of the cortex. The degeneration appeared to be of a colloid nature. The products of these degenerated cells ran down and blocked up, more or less completely, the other convoluted and straight tubules, so as to render them functionally useless, although their tissues were not diseased.

Dr. Charlewood Turner, in a case of Dr. Herman's own, says that the sections—

> show recent degenerative changes of the cortex, without any older or cirrhotic lesions, changes attributable to some toxic matter in the blood. Granular degeneration and swelling of the epithelium of the convoluted tubes, the nuclei of which are invisible, and swelling of the connective tissue throughout, without infiltration of leucocytes. In the medullary tissue the epithelium of the loops and connecting tubes appears normal. Some of the loops contain casts. There is much vascular congestion in this part. The glomeruli appear normal. There is no exudation in the capsules.

Dr. W. J. Fenton, reporting upon a case, says:—

> Most tubules show what is apparently a running together of the cells, having no definite structure, and having their nuclei obscured, the whole condition of the epithelium being similar to that often found in acute toxic conditions.

And so on—Dr. Herman's conclusion being that—

> From these different observations, made by independent pathologists, having no hypothesis to support, it follows that, although the kidneys often look like inflamed kidneys, yet that the lesion of puerperal eclampsia is not nephritis but an acute degeneration such as is caused by blood poisons.

It would serve no useful purpose to give all the multitudinous literature of the subject here. The above quotations sufficiently show that the greatest authorities are in complete opposition as to the nature of the renal changes in the kidney diseases to which pregnancy gives rise. One says that they are not nephritic at all; another that they are nephritic, and nephritic in remarkable degree. The matter must remain largely one of opinion.

The crux of the whole question is: What is nephritis? and What are its different kinds? and even to these questions no absolute answer can be given. The varieties of non-suppurative affections of the kidney included under the heading "Bright's disease" run so much into one another and so much confusion has arisen from attempts to keep up a distinction between tubal and interstitial nephritis that it is not to be wondered at that that which some authorities would term a nephritis is refused that title by others.

Dealing with the question from another point view, it will probably be granted that the kidney lesions which occur during and immediately after scarlet fever are those of nephritis. Whether or not the fibrotic changes which may occur in kidneys which have been inflamed during scarlet fever are also inflammatory is doubtful. It is probably incorrect to speak of chronic nephritis in many instances, for

that which is usually referred to as such is the fibrosis which results from former acute or subacute inflammation, the inflammation itself having ceased long since. A similar misapplication is frequent in regard to valvular heart disease: valves which are crippled as the result of former endocarditis are often spoken of as being the site of chronic endocarditis, when what is really meant is fibrosis from former endocarditis, all actual inflammation being now past. Scarlet fever may cause nephritis which, instead of either resolving completely or leading comparatively soon to a fatal result, may leave behind it a fibrosis. It is not this lesion which is at present under discussion but the acute or subacute lesions which are on all hands allowed the title scarlatinal nephritis.

The kidney which may be found post mortem in such cases is very variable in its naked-eye appearances. Sometimes it is a large red blood-dripping organ, without much blurring of the structural outlines; sometimes it is a large pale kidney, with lack of clear definition between cortex and medulla; more often it is a combination of these two types, a large organ variously mottled with pallid and with crimson streaks and blotches, the general effect being in the direction of redness in some, in the direction of pallor in others, whilst sometimes there is about an equal proportion of redness and of pallor in the mottling. Granted time between the onset of the inflammation and the time of the patient's death, a variable degree of contraction of the kidney will have resulted, with unevenness of the surface owing to irregularity in the distribution of the fibrosis, the colour varying here again between pallor on the one hand and redness on the other as much as it does in the large kidneys of the earlier stages of the disease.

The microscopical changes are equally variable. Confining attention mainly to the acuter stages, the most striking feature is the obstruction and distension of the tubes, which are stuffed with epithelium, granular débris of cells, and often blood and fibrin, to the more or less obliteration of their channels. Sometimes the fibrin is so abundant as to occupy most of the tubes to the exclusion of their epithelial lining. Often the epithelium of whole groups of tubules seems to have undergone a sort of coagulation necrosis, the line of demarcation between each cell and its neighbour being no longer visible, and the nuclei no longer taking the ordinary stains. In the more protracted cases the peri-glomerular and inter-tubular connective tissue shares in the inflammatory process, displaying hypernucleation and proliferation of the connective tissue cells. The degree to which small round-celled infiltration occurs is extremely variable. Sometimes it is almost entirely absent, sometimes it is very obvious, particularly around the glomeruli and in the cortex. The patient may not die until, although there is still actual inflammation present in some places, in others there has been time for fibrosis to have occurred. In short, both the macroscopic and the microscopic appearances of kidneys that are the seat of scarlatinal nephritis are extremely variable, though it can scarcely be said that the different appearances constitute intrinsically different kinds in the inflammation. If any broad rule can be laid down it would be that the sooner after the onset the patient dies the more will the appearances be those of a coagulation necrosis of the epithelium; the longer the patient lives, supposing always that the renal mischief does not entirely resolve, the more will be the connective tissue change, first that of hypernucleation, and finally that of fibrosis.

If the description that has been given of the acute and subacute changes in the non-suppurative renal diseases of pregnancy be now recalled, it will be found that these are extremely similar to those that occur in connexion with scarlet fever. If the scarlatinal changes are to be termed nephritis then those associated with pregnancy are surely nephritis too. There have been in Guy's Hospital of recent years four fatal cases of the œdema type and 15 fatal cases of the eclamptic type of renal trouble in pregnancy out of a total of 71 cases of the former and 51 cases of the latter. There is little need to recount the changes that were found at the necropsies, because there is little to add to the descriptions already given above. If the kidneys themselves or microscopical sections of them had been mixed up amongst a large number of different scarlatinal nephritis kidneys and their sections, it would have been next to impossible to have gone through them and sorted the pregnancy kidneys from the scarlatinal. Large red, large mottled, large pale, contracting red, contracting mottled, and contracting pale kidneys were all represented, with a predominance of the large mottled and large pale kidneys in the eclampsia cases and of the contracting kidneys in the œdema cases. There were great variations in the microscopical appearances in different cases also. Sometimes cloudy swelling or coagulation necrosis of the epithelial cells in the cortex was the main thing; sometimes even in the eclampsia cases there was hypernucleation of the connective tissue as well. In the œdema cases there was a variable degree of fibrosis, mature and immature, which occasionally reached an extreme degree even in kidneys that were not very obviously contracted. It would seem that every kind of change which may be found in scarlatinal nephritis may also be found in these kidney affections of pregnancy. I therefore range myself with those who regard these kidney changes in pregnancy as essentially similar in kind to those which may occur in scarlet fever, and I believe that there is no intrinsic difference, but only one of degree and acuteness, between the renal changes in eclampsia cases and those in cases where renal œdema is a prominent symptom less late in the pregnancy.

The Cause of Pregnancy Nephritis.

It is not possible to say precisely what is the cause of the nephritis in pregnancy. It is generally believed to be a toxin—that is to say, a poison of unknown nature—elaborated during pregnancy. To term the changes in these pregnancy kidneys "toxic" does not imply that they are intrinsically different from those of scarlatinal nephritis, where the precise cause, being equally unknown, is termed toxic too. There are doubtless many different substances which can cause similar inflammatory lesions in the kidneys. Pneumococci have been recovered from these organs in cases of acute non-suppurative nephritis associated with lobar pneumonia. Streptococci have been recovered in a similar way from some scarlatinal nephritic kidneys. Cantharides, turpentine, and oxalic acid can cause very similar renal changes. It is more than likely that in certain cases pregnancy gives rise to a poison of some kind which in turn is the cause of the nephritis.

Nothing is really known as to why in some cases eclampsia should be the prominent feature, whilst in others œdema is marked and eclampsia absent, and whilst in yet others both occur. The parallel with scarlet fever nephritis still holds good in this respect, however. There are cases of scarlatinal nephritis in which œdema in entirely absent, and uræmic symptoms are the first to attract attention; whilst there are other cases in which œdema is a marked feature without uræmia. There is an admirable paper upon the subject by Dr. F. M. Turner.[2]

Notwithstanding all the work that has been done upon uræmia its pathology is still unknown. Of late years attention has been directed less exclusively to the kidneys in the study of the subject, and there is some evidence to show that the liver as well as the kidneys may play an important part in the origin of uræmic or eclamptic symptoms. The liver is nearly always abnormal in these cases, the chief changes being cloudy swelling, fatty change, and acute necrosis of the hepatic cells. It would not be surprising if the liver condition had something to do with uræmia, seeing that, if jaundice were deducted from the later symptoms of acute yellow atrophy of the liver, the clinical picture of the latter would not be very unlike that of uræmia.

Before leaving the question of whether or not the renal lesion of eclampsia is really similar in kind to the renal lesion of the cases where general œdema is the main symptom, it may be of interest to note that four out of the 71 cases who were admitted for the œdema type of nephritis in association with pregnancy had suffered from typical acute eclampsia in a former pregnancy. Eclampsia is not so common that this can be a mere coincidence. If the same patient is liable to acute eclampsia in one pregnancy and then to the œdematous form of nephritis without eclampsia in a later one, it is very suggestive of there being a relationship in kind between these two clinical forms of renal disease. If these were cases in which the œdema type of nephritis had come first and then eclampsia in a later pregnancy the argument would not be so good, though there are cases of this kind too. The four cases referred to had never had symptoms of nephritis apart from pregnancy; their first symptoms of renal trouble were those of puerperal eclampsia towards the end of their first pregnancy. Recovery from this appeared to be complete, and in a subsequent pregnancy there was the nephritic type of œdema associated

[2] Guy's Hospital Reports, vol. ii.

with albumin and renal tube casts in the urine and without eclampsia. The renal symptoms and urinary abnormalities again resolved after the later child was born.

It would be interesting to trace the after-histories of all the cases of eclampsia that have recovered for the time being and note what happened later. The writer has tried to do this with hospital patients, but the number of cases lost sight of is so great that the statistics obtained so far are too small to be of value. This would be a subject very suitable for a collective inquiry. The cases that have been traced show that puerperal eclampsia has recurred in some without necessarily proving fatal; that in others, as has been mentioned, renal œdema without eclampsia has taken its place in a subsequent pregnancy; whilst others, again, having recovered from eclampsia, have borne subsequent children without either œdema, albuminuria, or eclampsia. It is not improbable that the same would be true of scarlatinal nephritis if scarlet fever could recur in the same patient as often as pregnancy can.

Returning now to a consideration of all the cases together, they are found to bear out entirely what has been noted by others in regard to: the relatively better prognosis in the œdema type of pregnancy nephritis as compared with the eclamptic; the high proportion of primiparæ amongst the eclampsia cases and the preponderance of multiparæ amongst those who develop the œdema type of nephritis; the relatively high percentage of cases in which albuminuric retinitis occurs; the relatively greater severity of the symptoms when the uterus contains twins; and the liability for the children to be born prematurely or dead, or for them to die soon after birth.

The immediate maternal mortality.—Out of 71 patients with renal œdema and no eclampsia four died whilst in hospital, an immediate maternal mortality of 5 per cent., whereas out of 51 cases of puerperal eclampsia 15 died, an immediate maternal mortality of 29 per cent. This is a relatively small mortality as compared with that of acute uræmia not associated with pregnancy.

The number of previous pregnancies.—Of the puerperal eclampsia cases 76 per cent. of the patients were primiparæ; of the remainder most had had only one previous child, but in two cases there had been 10 and 12 previous pregnancies respectively. Of the cases with renal œdema and no eclampsia, on the other hand, only 36 per cent. were primiparæ, 64 per cent. having borne a former child or children, whilst a considerable number of the multiparæ had had from four to 12 pregnancies without evidence of nephritis before. Leaving the eclampsia cases aside, as being of less interest to physicians, it is found on analysing the 71 cases in which there was renal œdema without eclampsia that 70 per cent. had never had symptoms of renal disease until the time when they developed during the pregnancy; that 10 per cent. had passed through a former pregnancy without symptoms of nephritis, but subsequently developed them when not pregnant, and suffered from an increase in the symptoms during a later pregnancy; that 7 per cent. had had acute nephritis before they were married and suffered from recrudescence of that trouble during pregnancy; that 6 per cent. had had eclampsia with a former pregnancy and now had symptoms of ordinary nephritis during pregnancy; that 6 per cent. had had symptoms of nephritis during a former pregnancy, recovering between whiles, but exhibiting the nephritic symptoms again when subsequently pregnant (in one of these cases nephritis with œdema, but without eclampsia, had recurred with each of four successive pregnancies); and that 1 per cent. had had no symptoms of nephritis during pregnancy and had had no eclampsia, but developed the symptoms of acute nephritis, with general œdema, during the puerperium.

As regards the month of pregnancy at which the renal trouble became manifest, that of eclampsia was, as all observers agree, in the latest months or immediately following labour; whereas in the cases where renal œdema was the main symptom the onset was at any time between the second and the eighth month, the trouble manifesting itself about the fifth or sixth month in the majority of cases. In this connexion it might be asked: If a pregnant woman develops evident œdema of renal type, with albumin and tube casts in the urine, during the eighth month of pregnancy, what is the likelihood that she will also have eclampsia? It would require a larger number of cases than the above for any absolute answer to be given to this question. It is fairly clear that if nephritis with œdema develops in the early or middle months of pregnancy it is quite exceptional for eclampsia to occur when the pregnancy is more advanced. It is also quite clear that the majority of cases of eclampsia have little or no œdema. Thus in 49 per cent. of the eclampsia cases there was no œdema at all; in 35 per cent. there was definite though slight œdema of the face and ankles; in but eight cases, or 16 per cent., the general œdema was extensive, though it only developed in the later months.

Amongst the renal cases in which no eclampsia occurred there were nine in whom generalised œdema developed for the first time during the eighth month or later. There were thus 17 cases in whom extensive renal œdema first appeared in the eighth month, eight of them subsequently developing eclampsia and nine of them not doing so. It seems therefore that a broad answer to the question propounded above is, that when renal œdema first develops as late as the eighth month of pregnancy, the chances as to whether the patient will suffer from eclampsia or not are about equal.

Albuminuric Retinitis.

It is generally allowed that albuminuric retinitis in these pregnancy kidney cases is more common than it is in other forms of nephritis. The above cases conform with the general conclusions arrived at by others. Unfortunately, there was not an ophthalmoscopic record kept in every instance. Of the 71 cases without eclampsia 13 had albuminuric retinitis, two dying; 10 had no albuminuric retinitis, none dying; and in 48 cases the condition of the eyes is not noted. Even if it be assumed that there was no albuminuric retinitis in all of these, which is improbable, the incidence of the retinal changes is nearly 20 per cent.; whereas in 312 consecutive cases of chronic nephritis not associated with pregnancy the incidence of the retinitis was 11 per cent.—14 per cent. in those diagnosed as chronic tubal and 9 per cent. in those thought to be chronic interstitial nephritis.

It is generally acknowledged that albuminuric retinitis is less likely to occur in acute Bright's disease than it is in chronic; nevertheless, it was well marked in 3 of the eclampsia cases, 2 of them dying. It was absent in 9, of whom none died; and there is no mention of the retinæ in the remainder.

Amaurosis was present in several cases in which the optic discs and retinæ were normal.

It has been said that pregnancy cases with albuminuric retinitis have a less unfavourable prognosis than have others with a similar lesion. This is perhaps true to the extent that in a few instances the retinal mischief has been known to disappear again after the pregnancy is over. In at least one of the above cases in which albuminuric retinitis was well marked during pregnancy the albuminuria, the œdema, and the retinitis disappeared entirely after the child was born. Nevertheless, the presence of the retinal changes is a sign of extreme gravity even in the pregnancy cases, the immediate mortality amongst the 16 cases who had it being 25 per cent.—15 per cent. in the non-eclamptic cases and 66 per cent. in those who had eclampsia.

The Effect of Twins.

The deleterious effect of twin pregnancy upon the kidneys is more marked in the eclampsia cases than it is in those with general œdema without eclampsia. Amongst the 71 cases of the latter there was not one of twin pregnancy, whereas amongst 51 of the former there were twins in 4; that is to say, in 8 per cent. The normal proportion of twin to single pregnancies is as 1 to 80, so that the incidence of twin pregnancies in eclampsia cases is more than six times greater than the average. This is precisely what has also been quoted by Schauta,[3] Hofmeier,[4] Löhlein,[5] Schreiber,[6] and others, whose conjoint statistics show that in between 7 and 8 per cent. of eclampsia cases twins are present. This remarkable fact strongly supports the view that the nephritis is due to a toxin elaborated by the placenta or by the fœtus, for, as Dr. Herman and others point out, the mere bulk of the uterus will not account for it. "Nothing like eclampsia is ever met with in cases of abdominal tumours—ovarian cysts, uterine fibroids, and so forth—which sometimes get much larger than any pregnant uterus. The frequency of eclampsia with twin pregnancy arises from the presence of two children in the womb and not from mechanical distension of the abdomen."

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[3] Archiv für Gynäkologie, vol. xviii.
[4] Zeitschrift für Geburtshülfe und Gynäkologie, vol. vi.
[5] Ibid., vol. vi.
[6] Archiv für Gynäkologie, vol. li.

The Effects of the Nephritis upon the Child.

Whether it is that the influence of the nephritis upon the fœtus is bad or that the poor condition of the fœtus is in some way the cause of the nephritis is a moot point. The fact, however, that some of the children are born healthy and live to grow up notwithstanding the renal trouble in the mother would seem to indicate that in the other cases the fœtus suffers because the mother has nephritis rather than *vice versâ*. All statistics show a high mortality amongst the children and those under discussion form no exception. Leaving the eclampsia cases out of account, the other type of patients show that in 18 per cent. of the cases the child was born too premature to live; in 23 per cent. the child was born near to, or at, term, but dead; whilst in the remaining 59 per cent. the child was born alive, but in a number of instances with too little vitality to continue to live long.

Treatment.

It is not the province of these lectures to enter upon treatment at any length, so that but a few words will be said about it. Clearly the treatment of an eclamptic case lies mainly with the obstetrician. That of the nephritis of the earlier months of pregnancy, however, calls for immediate obstetric measures in but a few cases. Rest in bed, with medicinal, dietetic, and other measures precisely similar to those employed in other cases of acute or subacute nephritis, ameliorates the renal symptoms in many of the cases. The œdema and the albuminuria may thereby almost disappear before the end of pregnancy is reached. The average patient of this kind does better when treated upon the same lines as a non-pregnant case than if obstetric measures for the termination of the pregnancy are recommended and adopted. If, however, the renal mischief increases instead of diminishing, as is sometimes the case, notwithstanding all medicinal treatment—particularly when the latter has not been adopted and insisted upon at the very beginning of the trouble—the case will probably require the assistance of an obstetrician before term; although the relief to the nephritis after an artificial termination of the pregnancy is not as a rule so rapid as it is after natural delivery.

PREGNANCY IN PATIENTS WHO HAVE ONLY ONE KIDNEY.

Seeing that so much stress has been laid upon the renal affections that pregnancy itself may cause it might well be asked whether a patient who for one reason or another has had one of her kidneys removed ought to be advised not to marry. It must be remembered that although pregnancy sometimes gives rise to nephritis or to pyelonephritis the total proportion of all cases in which it does so is exceedingly small. Moreover, it is well known that after excision of one kidney the other, if healthy, has a very remarkable power of hypertrophying by way of compensation. Such a single kidney is seen in the post-mortem room now and then and it may weigh nearly as much as two ordinary kidneys. It would be expected, therefore, that if there was no evidence of disease in the remaining kidney and if the patient was otherwise in good health pregnancy might be incurred without any untoward symptoms whatever. This is, in fact, what Mr. G. E. Twynam[7] has found to be the case. It may be added that since the greater strain is put upon the right kidney during pregnancy the case is more likely to do well if it is the left kidney that remains; and further that since compensatory hypertrophy of the kidney must take some time to become complete a year or more should elapse between the nephrectomy and the occurrence of pregnancy in any given case.[8]

TETANY AND PREGNANCY.

Another condition of which pregnancy seems to be one of the causes is tetany. One of the most interesting points in regard to the association of pregnancy with tetany is perhaps its apparent rarity in London. There does not seem to have been a single case of the kind in Guy's Hospital during the last 30 years. The writer has not seen a case of the association, though he has seen several instances of tetany in adults, chiefly in conjunction with gastric lesions. Incidentally, as a point which possibly supports the toxic theory of the disease, it may be mentioned that more than one case excreted quantities of diacetic acid and acetone in the urine. It is well known that both these substances appear in the urines of many cases of gastric disorder quite apart from tetany and that they also appear in conditions of starvation, so that possibly the gastric disorders lead to acetonuria, partly or wholly as the result of semi-starvation. Nevertheless, in an instance recorded by Dr. David Forsyth[9] the paroxysms of tetany in a patient who also had evidence of gastric ulceration were always associated with an increased degree of acetonuria. It would be interesting to know whether diacetic acid and acetone were also present in the urine in cases of tetany associated with pregnancy or in those following operations upon the thyroid gland; and further, whether large doses of sodium bicarbonate had any beneficial effect upon the symptoms and course of the tetany, as might be the case by analogy with the treatment of acidosis in cases of diabetes mellitus.

That pregnancy and tetany are not at all generally related to one another as cause and effect is further shown by the comparatively small amount of literature there is upon the subject. One of the best-known monographs about it is that of Frankl-Hochwart. From this and from other papers one learns three particularly interesting points about the disease—namely, first, that in places where it occurs at all it bears a remarkable relationship to the time of year; the great majority of the cases arise in the late winter and early spring. Out of 59 cases collected by Frankl-Hochwart[10] 39 occurred in January, February, March, or April, whilst only 13 occurred exclusively in the remaining eight months of the year. Secondly, that there is a noteworthy tendency for the disease to be almost epidemic. There is a little difficulty in interpreting some of the accounts, for the disease was undoubtedly diagnosed erroneously in years gone by. Epidemic cerebro-spinal meningitis was formerly confused with tetany, for example. Hysteria affecting many individuals of a township, analogous to that of the dancing Dervishes or to that of the chorea of the ancients, constitutes another difficulty. Even allowing for this, however, the records show clearly that in places where tetany occurs there are some years in which the cases are quite numerous and then others when the disease almost disappears from the neighbourhood. In Paris, for example, where the tetany of pregnancy used to be quite frequent, it is now said to be a condition of great rarity. Thirdly, in correspondence with the above it appears to be a disease of extremely local distribution. Very rare in London, and apparently throughout Great Britain, formerly common in Paris and now rare there, rare throughout America, the two places where it seems to be the reverse of rare are Heidelberg and Vienna. It appears to be endemic in these two cities. It by no means follows, of course, that it is microbial in origin. It is well known that such diseases as cirrhosis of the liver or acute gout, common though they are in some places, are quite rare in others, although there is not yet any proof that either of these is of bacterial origin. There is no reason to suppose that the tetany sometimes associated with pregnancy differs essentially from adult tetany due to other causes. There is no need to discuss its general symptoms here, for they are well known.

The Pathology of Tetany.

The pathology of the condition is obscure, though there is much evidence to show that a toxin, and possibly not always the same toxin, is at work. The morbid lesions that have been described have chiefly been changes in the anterior cornual cells of the spinal cord and the corresponding cells in the medulla oblongata. Such changes would agree with the altered electrical reactions noted in the muscles during life. There is no complete reaction of degeneration, for excitability to the faradic current is retained; but with the galvanic current, instead of the kathodal closure contraction being more easily obtained than the anodal closure contraction, there is an altered polar response which may be summarised by saying that anodal closure contraction and anodal opening contraction are both obtained more readily than kathodal closure contraction. The changes in the spinal cord cells do not seem to be permanent, for the majority of the cases get perfectly well, though there is a tendency for the tetany to recur in several different pregnancies, not necessarily successive, in the same person.

[7] Brit. Med. Jour., Feb. 12th, 1898, p. 423-425, and West London Medical Journal, 1898.

[8] See also Schramm: Berliner Klinische Wochenschrift, No. 6, 1896. Fritsch: Die Krankheiten der Frauen, Berlin, 1894, p. 98. Israel: Archiv für Klinische Chirurgie v. Langenbeck, vol. xlvii., 1894. Tridondani: Annali di Ostetrica e Ginecologia, July, 1896. C. E. Purslow: Brit. Med. Jour., 1898, Part I., p. 817. H. E. Maberly: Brit. Med. Jour., 1898, Part I., p. 604. A. Paunz: Verhandlungen des Königlichen Ungarischen Aerztevereins zu Budapest, Feb. 7th, 1906, p. 11.

[9] Guy's Hospital Gazette, 1902.

[10] Die Tetanie, Berlin, 1891. See also Dakin: "Tetany in Pregnancy," THE LANCET, May 16th, 1891, p. 1103, where all cases recorded up to that date are collected, with references.

The other points that may be of interest are, briefly, the following. The patient usually escapes during the first half of pregnancy, the affection developing in the later months as a rule, though it occasionally shows itself earlier. The spasms are rarely met with during labour—a remarkable point, seeing that they are so readily produced by muscular efforts at other times. They may occur for the first time during lactation, though this seems to be less common than for them to arise during pregnancy and then continue during lactation. If they occur during lactation it is clearly impossible for the mother to suckle the child, for she is unable to hold it securely. It is necessary to feed the baby artificially, not only for its own sake, but also because it leads to the more rapid subsidence of the tetany in the mother. The treatment of the condition is similar to that of tetany in non-pregnant persons. Finally, the tetany in the mother seems to exert less ill-effect upon the fœtus than might be expected.

We may now leave the medical diseases, of which pregnancy is itself the exciting cause, and pass on to the discussion of other medical affections which, though not actually caused by the pregnancy, may yet arise or be already present in a pregnant woman. There is hardly a medical disease, from a common cold to a cancer, that may not be thus present and it is of essential importance to know in what respects, if any, the prognosis and the treatment in the case of a pregnant woman suffering from such intercurrent malady differ from the prognosis and the treatment in other cases. It is manifestly impossible to discuss every such disease in the time at our disposal; many must be left unmentioned.

APPENDICITIS IN ASSOCIATION WITH PREGNANCY.

The question of appendicitis is always one of interest. What is the influence of pregnancy upon appendicitis and *vice versâ?* This would be an excellent subject for a collective inquiry. The number of cases of pregnancy in association with appendicitis seen by a single individual is not likely to be great, and the cases that can be collected from the literature are almost necessarily those which are the more severe. The mild cases, which get better without anything very active being done, escape publication, and a collective inquiry which would cover all cases, whether mild or severe, would probably lead to conclusions that could not but be helpful to all.

There is a certain amount of literature upon the subject, some of which has been collected by Mr. George Heaton[11] of Birmingham General Hospital. One of the chief difficulties in connexion with the matter is that of diagnosis. Inflammatory and other lesions of the right Fallopian tube or ovary may simulate appendicitis very closely. The ordinary vomiting of pregnancy may be regarded as the whole trouble when there is really appendicitis, whilst, on the other hand, when a special outlook is being kept for appendicitis the latter may be diagnosed when none exists. The difficulties that may arise when the lesion is really in the kidney—the pyelonephritis of pregnancy—have already been discussed, and in every case of suspected appendicitis in pregnancy the urine should be carefully examined with the microscope for pus corpuscles. The pains, again, may be referred to the abdomen when the real mischief is in the chest. Indeed, the diagnosis of appendicitis in a pregnant woman is beset with all the difficulties that occur in non-pregnant cases, together with others peculiar to pregnancy. Assuming, however, that the difficulties of diagnosis can be overcome by experience the questions which arise are: Does pregnancy predispose to appendicitis when there has been no previous attack? Does pregnancy in a patient who has formerly had appendicitis without operation render her particularly liable to another attack during or after the pregnancy? Does the coincidence of pregnancy with appendicitis make the latter more severe than it is in average cases? Does appendicitis in the mother render the pregnancy more liable to terminate prematurely and does it militate against the life of the child if the attack occurs when the latter is of viable age? Should the treatment of the appendicitis be precisely similar to that of corresponding attacks in non-pregnant persons, or should the physician's advice be more in the direction of inviting surgical assistance sooner, or more in that of continuing expectant treatment as long as possible in these cases? Should obstetric aid for artificially terminating the pregnancy be sought in any of these cases? These are very vital questions and yet it is by no means easy to answer them. It may be urged that no definite rules can be laid down and that the action to be taken in each instance that arises must be decided entirely upon the merits of the particular case. This is true to a considerable extent; but when it is borne in mind that very different interpretations are put upon these "merits of the case" by different observers, even in cases of appendicitis in non-pregnant persons, it becomes evident that it is still more difficult to decide what is best to be done in cases that are at the same time pregnant.

In answer to the first of the above questions it would seem that pregnancy does not predispose to a primary attack of appendicitis. Amongst all the patients that have been in Guy's Hospital suffering from appendicitis during the last 27 years only one was at the same time pregnant. She was a woman, aged 24 years, who had had no former attack, who had had no previous child, and who was six and a half months pregnant when she was suddenly seized with acute appendicitis of moderate severity. The trouble was localised from the first with the usual fulness in the right iliac fossa. Premature labour came on spontaneously a day or two afterwards and the appendicular trouble rapidly resolved without operation.

The second question receives the following answer from Mr. Heaton: "If a patient have previously suffered from the complaint and afterwards becomes pregnant, the pregnancy may light up another attack. This it probably does by stretching or breaking down old inflammatory adhesions as the uterus enlarges and rises out of the pelvis. ..... On careful questioning it will often be found that there have been one, or several, previous attacks, though in some cases they have been of so mild a character as to have been almost disregarded. ..... Some surgeons would in every case remove the appendix in women immediately after an attack of appendicitis, if they be of a child-bearing age." It is manifestly of the greatest importance to have a clear answer to the question and to know whether the above views are correct or not. A young woman might contemplate marriage and, having had one attack of appendicitis when she was a girl and having recovered from it without operation and having had no symptoms of it since, she might ask the advice of a physician as to whether she ought to have her vermiform appendix removed before her marriage or not. She might be loth to undergo the operation and yet willing to follow the advice that might be given. Ought the operation to be advised in such a case or not? The answer can only be given when the results in a large number of such cases in whom no operation has been done have been collected and analysed. I have attempted to follow a number of hospital cases in this way, but to be of value the statistics obtained in a similar way by many different individuals should be put side by side and compared; the results found so far seem to indicate that there is no particular liability for pregnancy to light up fresh appendicular trouble in cases where the former attack occurred years before and appeared to resolve completely. The fact that a girl with ordinary appendicitis may some day become pregnant and might then have a recurrence of the trouble, may doubtless be an additional argument in favour of appendicectomy during convalescence from the attack, but if a patient has not had that operation at the time and has had no return of the symptoms since, the chances of her developing fresh appendicitis later when she becomes pregnant seem to be sufficiently small to warrant the advice that she needs no operation previously to marriage. If, on the other hand, a woman has her first attack of ordinary appendicitis after marriage, at a time when she is not pregnant, and the question arises as to whether she should have her vermiform appendix removed when the acute phase of the attack has passed, the fact that she might become pregnant very soon would seem to be a very real ground for advising that the operation should be done. Although there seem to be practically no statistics upon the subject, pregnancy arising within a few months of an attack of appendicitis would be very liable, one would think, to stretch and break down the immature adhesions in the way that Mr. Heaton describes, and lead to a recurrence of the trouble at a time when it would be particularly unfortunate. For the same reason it would be unwise for a young woman who had had appendicitis, not years ago but within the last few months, to get married; and such a patient would probably be advised to have appendicectomy performed, even though for a similar state of affairs in a man the operation might not be essential.

The answer to the third question—namely, whether or not

[11] Brit. Med. Jour., March 4th, 1905, pp. 463-465.

the co-existence of pregnancy makes an attack of appendicitis more severe than the average—cannot be given until, by some process of collective inquiry, all the milder as well as the more severe cases can be collected. This is not at present possible, for the more striking cases become published, the simpler remaining in the background. The proportion of mild to severe cases is thus lost sight of; consequently the severity of appendicitis during pregnancy is very apt to become exaggerated. Nevertheless, those who have seen cases give it as their personal opinion that pregnancy is a complication which greatly increases the risks and dangers of the disease. The attack may occur at any stage of the pregnancy, as early as the sixth week and as late as the eighth month. The illness may be of all degrees of severity, from transient appendicular colic to the acute fulminating appendicitis which proves fatal in a few hours. In mild attacks, during the early months of pregnancy, the inflammation may completely subside and pregnancy go on uninterruptedly to term. "Owing, however, to the increased blood-supply and to the congestion of the parts due to pressure of the enlarging uterus," cases of appendicitis in pregnancy seem to run an unusually rapid course. Though some subside the majority, if left, seem to go on to suppuration and the further advanced the pregnancy the more likely this seems to be.

The danger to the mother's life does not cease with the opening of the abscess, for even after drainage of the cavity in the later stages of pregnancy, or in cases where miscarriage has taken place already, a septic salpingitis or endometritis may be set up with a further liability of extension to the peritoneal cavity. As regards the effects upon the fœtus, the latter was born dead in 90 per cent. of the cases collected by Abrahams.[12] When pus forms in the later months of pregnancy miscarriage almost invariably takes place whether operation be performed or not. Even in cases where no pus is proved to have been present miscarriage or premature labour is more common than is the rule in healthy cases. It is not surprising that an untoward ending of the pregnancy is so frequent when one considers that the enlarged uterus is almost certain to be in contact with the inflamed tissues and to form one wall of the abscess cavity when pus is present.

The answer to the question of whether or not the treatment should be different to that of appendicitis in non-pregnant cases seems to be this: That, upon the whole, operative measures should be accelerated rather than postponed in these pregnancy cases. There are, of course, quite mild cases in which it is better to do nothing active; but in cases of the next degree of severity, where if the patient were not pregnant it might be thought best to wait, the opinion seems to be that operation should be advised on the very ground that the patient is pregnant, particularly in the later months of pregnancy. Doubtless this will not be the opinion of all,[13] but the reasons given for it seem sound; in the first place, owing to the vascularity of the parts, pus is even more likely to occur in these cases than it is in others; in the second place, the prospect as regards the child is so poor in any case that the course followed should be almost exclusively that which is in the greatest interests of the mother; and in the third place, the emptying of the uterus by spontaneous miscarriage or premature labour is so likely to occur and with it a rending open of a previously localised inflammation, with consequent spread to the general peritoneal cavity, that it is very dangerous to wait.

The foregoing argument gives the answer to the last of the questions that were put above. It is in the last degree undesirable that obstetric measures for terminating the pregnancy artificially should be resorted to for fear of breaking down adhesions that are helping to localise the inflammation.

Pinard[14] has collected 45 cases of appendicitis complicating pregnancy, the diagnosis being confirmed in 30 by operation or post-mortem examination. He concludes that appendicitis may attack a pregnant woman at the beginning or at any time during pregnancy; that in the majority of cases it causes abortion, the reason for which is that the fœtus becomes infected with the bacillus coli communis, this organism being recoverable from its blood; that every type of appendicitis may occur, the severer cases predominating; and that operation should be advised as early as possible, both for the mother's sake and with a view to diminishing the chances of fatal infection of the child by the bacillus coli communis.

If a pregnant woman develops an attack of appendicitis that is in any degree severe the statistics that are available all indicate that the best chance of saving both the mother and the child is by early operation.

[12] American Journal of Obstetrics, February, 1897.

[13] See also Vinay: Lyon Médical, Jan. 2nd, 1898. Bouillier: Thèse de Lyon, 1897, and Epitome, Brit. Med. Jour., No. 442, 1898. Toupet and le Filliatre: Bulletin de la Société Anatomique de Paris, December, 1898. THE LANCET, Oct. 11th, 1902, p. 1004. Donoghue: Boston Medical and Surgical Journal, Sept. 4th, 1902. Mixter: Ibid., December, 1891. Mundé: Medical Record, 1894. New York Medical Record, 1907, vol. i., p. 880.

[14] Semaine Médicale, March 23rd, 1898.

THE SCHOOL AND ITS PART IN THE PREVENTION OF TUBERCULOSIS.[1]

BY JOHN HAY, M.D. VICT., M.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO THE ROYAL INFIRMARY, LIVERPOOL.

THE subject which I have been asked to discuss with you this afternoon is "The School and its Part in the Prevention of Tuberculosis." The recent legislation dealing with school inspection makes this an opportune moment for carefully reconsidering the many sides to this question and the views which have been expressed by those who have taken an interest in it. I will attempt to place before you some facts bearing on tuberculosis in its relation to the schools and then formulate certain broad lines along which advance seems desirable.

In the last nine or ten years this fight has been actively waged and at last we begin to see undoubted results from our labours. Surely it is a matter of great encouragement that there are those speaking in authority who firmly believe that after another half century of effort tuberculosis will have ceased to be the powerful enemy that it now is. This happy issue, however, can only be attained by unceasing vigilance and continuous effort. One fact alone is sufficient to show what a deadly pest we have in the tubercle bacillus—namely, that one-half of those who die between the ages of 25 and 35 years die from tuberculosis. It is worthy of note that during the last 30 years the death-rate from consumption in England has fallen from 21 to 12 per 10,000 of the population.[2] This grand advance means an enormous saving of human life. But what a different tale your own country tells. 30 years ago your death-rate from consumption was only 18 per 10,000; now it is 22. These figures "give us pause" and are in themselves sufficient to give rise to much searching of heart among those responsible for the guidance of the people in matters of public health. There is no reason why a definite and rapid improvement should not take place in Ireland. What is needed is coördination of the many agencies already in existence, a wider knowledge of the nature of tuberculosis and the means of stamping it out, and last, and of extreme importance, enthusiasm and money. Money is *absolutely essential* in this fight. Every medical man knows well when pondering on the outlook of a patient suffering from pulmonary tuberculosis that the chances of cure, other things being equal, depend on the financial status of the sufferer. The same holds good with a nation. The more money it can afford to put down the better chance there is of a speedy and permanent diminution of the amount of tuberculous disease in the country.

Professor Koch in his Nobel lecture[3] said that he considered "notification, hospitals, sanatoriums, and care-stations the heavy artillery in the battle against tuberculosis," and he says further: "But there are lighter weapons, too, which cannot themselves exercise so incisive an effect but the coöperative help of which we cannot dispense with." Among these he reckons "in the first place, all efforts to instruct the people as to the danger of tuberculosis and to keep awake the interest of the masses in the combating of tuberculosis by popular publications, lectures, exhibitions, and other means."

To-day we are to discuss more particularly the schools and their relation to the prevention of tuberculosis and I venture to think that Professor Koch would have classed the schools as one of the more powerful of the lighter weapons of which

[1] A paper read at the Tuberculosis Exhibition in Cork on Jan. 4th, 1908.

[2] Brit. Med. Jour., 1906, vol. i., p. 1556.

[3] THE LANCET, May 26th, 1906, p. 1449.

use can be made. There are certain facts which must be fully realised at this point and which I venture to state somewhat dogmatically. 1. Tuberculosis of infants and young children is almost always due to human infection; any other source of infection is almost negligible. The disease in nearly every instance is contracted at home. Home infection is far more common than any other. 2. Pulmonary tuberculosis or consumption is classed as either "open" or "closed." Patients suffering from "open" tuberculosis discharge tubercle bacilli into the surrounding air by means of expectoration or in the spray inevitably associated with a cough. A patient with "open" tuberculosis is an infecting and infectious agent. When, however, there is no discharge of bacilli, as when the disease is early or quiescent and the expectoration when present is free from tubercle bacilli, the patient is then classed as a case of "closed" tuberculosis and is not a source of danger to others. 3. Latent tuberculosis is practically always closed and non-infectious. It is common in school children. Naegeli[4] at Zürich has shown that of the children between the ages of 5 and 14 years who died and on whom a post-mortem examination was made 33 per cent. had some focus or other of tuberculous disease; similarly between the ages of one and five years 17 out of every 100 children going to necropsy were found to be infected. These facts in themselves speak strongly in favour of the home as the source of infection. We may take it, therefore, as correct that in the majority of instances tuberculosis is contracted in infancy or childhood, remains latent and unrevealed during school life, and only becomes evident in adolescence or early manhood.

I propose to deal with our subject under three heads. 1. To consider how many school children are actually infected and the nature of the infection. 2. To discuss what steps should be taken to lessen the risk of infection and to cure those already diseased. 3. To determine what can be done to make the school a more potent factor for good, for the school is the place where the public opinion of the future is largely formed and where new views of hygiene are to be inculcated.

Is revealed tuberculosis common among the school-going population? The answer to this is in the negative. This matter has been investigated by several men during the last few years and in THE LANCET of Dec. 28th, 1907 (p. 1813), a series of interesting figures is given by Dr. H. C. Lecky and Dr. W. Claude Horton bearing on this point. My own experience tallies with theirs. During the last three years I have investigated 436 children in a Liverpool day industrial school. Every child is examined on admission and once a year afterwards. He or she is stripped to the waist and carefully overhauled. Of the 436 children 397 presented no evidence of lung disease or any form of discoverable tuberculosis. Of the 39 abnormal children two were suffering from definite pulmonary tuberculosis, one had an ankylosed hip-joint the result of old tuberculous trouble, and three had definite tuberculous glands in the neck. The other 33 were affected with slight simple bronchitis. 1 child in 218 was suffering from demonstrable consumption; in other words, only 0·45 per cent.—that is, less than ½ per cent. of the children attending this school—showed any sign of tuberculous disease of the lungs. These results may be tabulated as follows:—

Total.	No lung trouble or tuberculous disease.	Pulmonary tuberculosis.	Other tuberculous affections.	Slight bronchitis.
436	397	2	4	33
—	—	0·45 per cent.	0·91 per cent.	7·5 per cent.

These figures are in keeping with the results obtained by Dr. Lecky and Dr. Horton, who found three cases of revealed pulmonary tuberculosis in 806 children. In London out of 1670 children only 8, or 0·47 per cent., showed signs of consumption. In Blackburn, Dr. A. Greenwood states, among 400 children only one was diagnosed as suffering from pulmonary tubercle. Dr. A. P. Low in Dundee found no consumption in 517 children. Dr. R. V. C. Ash in Dunfermline examined 1371 children with a similar negative result. Dr. W. M. Mackenzie met with 14 cases in the examination of 600 children, while in Aberdeen Professor M. Hay in another series of 600 children found only three infected. In the Cannongate Schools in Edinburgh 19 children were found to be consumptive out of 1318. These results are somewhat contradictory, and I believe that probably the lower estimates are the more correct. However, even including the Edinburgh figures the resulting average is not more than one case of pulmonary tuberculosis in 154 children. Professor E. J. McWeeney of Dublin in a recent paper proves that the percentage of children in the Irish schools suffering from tuberculosis is higher than in the English, and estimates that about 3700 children are actually attending school suffering from "open tuberculosis." He states also that for every six children between 10 and 15 years of age who die from tuberculosis in England 15 die in Ireland; and for every adolescent between 15 and 20 years of age who dies in England three die in Ireland. These numbers are, of course, relative to the total population. In spite of these figures, however, we see that the percentage of children attending school who are suffering from pulmonary tuberculosis is extremely small.

Some very interesting figures were published by Dr. A. Greenwood showing the results of the examination of 1028 children who had absented themselves from school because of illness; of these absentees 6·7 per cent. were suffering from pulmonary tuberculosis. When this high percentage is compared with the relatively low figures just quoted of the extent of pulmonary tuberculosis among the ordinary school children the obvious inference is that tuberculosis when attacking children rapidly unfits them for school life. For this very reason they soon cease to be a source of danger in the school, for they do not attend. Children with acute or subacute tuberculosis are hardly ever found at school, they are rapidly incapacitated and remain at home.

The view of Calmette, von Behring, and others that infection occurs during the earlier years is becoming generally accepted; the results of Naegeli at Zürich, to which I have already referred, bear this out. You will remember that he found among the children from 5 to 14 years of age dying from all causes 33 per cent. who showed some focus of tuberculous disease and similarly that in the children who died between the ages of one year and five years 17 per cent. were more or less tuberculous. Of these tuberculous infants and children, in the large majority of instances the disease would be latent, or, at any rate, unrevealed during life. The late Professor Granchet carried out some interesting investigations bearing upon this point. During three years 4227 children in the primary schools in and near Paris were examined in order to find out how many showed a characteristic *predisposition* to tuberculosis. The result of this investigation was as follows. From 11 to 14 per cent. of the boys and from 17 to 20 per cent. of the girls, or roughly 15 per cent. of the children examined, showed a definite predisposition to tuberculous disease. The existence of this large number of school children predisposed to tuberculosis is a fact of the greatest moment. This predisposition is shown in many ways, as, for example, by the presence of enlarged tonsils and adenoids, with the consequent mouth-breathing, and by poorly developed chests and deficient expansion. Enlarged glands in the neck and abdomen in the majority of instances can be put down to tuberculous infection. Calmette's ophthalmic reaction may possibly prove of service in helping to pick out those children who have some concealed focus of tuberculous disease. The future of these children depends on their resisting power and their resisting power is largely dependent on their environment not only in the home but also in school. The latent tuberculosis present in the 10 or 15 per cent. of the children will not in many instances continue to be dormant. If the resisting power of the children is allowed to remain at a low level sooner or later the tubercle bacilli which have remained concealed in their tissues will again become active and the patient will die during adolescence or early manhood. These facts insisting on the large extent of latent infection have a very practical bearing. They demonstrate the vital importance of healthy surroundings during school hours. It is very difficult in many instances to alter materially the home surroundings of the children but this is not the case with the schools. To have overcrowded, badly ventilated, stuffy schoolrooms is to devitalise the children and to invite disaster. Those predisposed to tuberculosis will have their chances of reaching manhood and womanhood seriously diminished.

I think I am right when I say that much remains to be

[4] Quoted by Dr. N. Méry, Rapports présentés au Congrès International de la Tuberculose, Paris, 1905, p. 298.

done in the improvement of the hygiene of many school premises throughout Great Britain and perhaps in some respects more especially in Ireland. The Commissioners of National Education in Ireland for 1905–06 revealed a condition of affairs which was simply appalling.[5] The whole system of primary education, so far as it concerned the provision of proper school accommodation, was in a state of paralysis. The details concerning some of the Belfast schools are almost incredible.[6] In one school, for example, in Belfast 401 children were present, though there was only accommodation for 209. In another 78 infants were huddled in a room 19 feet by 9½ feet, and 64 first standard pupils in a room 14 feet by 9½ feet, with only one window admitting of being opened. It is hard to believe, for instance, that there are very many schools throughout Ireland that are never washed from one year's end to the other; they are only brushed. I have it on the authority of Mr. Patrick Gamble, the President of the Irish Teachers' Association, that it is no unusual thing for the teacher to have to pay out of his own small stipend for the whitewashing and other necessary repairs about the school. I will not multiply instances; the above will suffice to show at least one flaw to be remedied. It has been well said, "damp, ill-lighted, and dirty schools were forcing-beds for consumption and other diseases." To remedy this, overcrowding must be prevented and a larger air space per child must be enforced. The classes which at present are almost invariably too large must be diminished. The ventilation which in most cases is imperfect should be made efficient. To effect these reforms it will be necessary in many instances to pull down and utterly destroy the old and insanitary and impossible schools and to build new ones in their stead. To tinker up the old schools is a waste of time and is bad economy. However, more can be done for the children with latent tuberculosis than simply giving them fresh healthy surroundings during school hours, though that in itself is half the battle. I will refer to this shortly.

It is obvious, then, that the children in attendance at school can be divided into three classes: (1) those who are healthy and free from any taint of infection—this division will include the majority of the children; (2) those who are suffering from active consumption, about ½ per cent.; and (3) those who are predisposed to consumption and who are possibly the victims of latent and unrevealed tuberculosis. In this group we may include those children who come from a home where one of their parents or relatives is suffering from "open" tuberculosis.

In order to have the children so classified two things are necessary. First, the medical inspection of school children. This we in England have now obtained under the Education Act of 1907. Secondly, the notification of tuberculosis—the more complete and compulsory the better; this we have in some degree. The Act which has given us medical inspection of schools has left the local education authorities to decide to what extent their medical officer shall work in conjunction with the public health department, and very considerable differences of opinion exist as to the extent to which the school medical officer shall be under the jurisdiction of the medical officer of health. In the memorandum issued by the Board of Education on the medical inspection of children in public elementary schools the Board takes the view "that the work of medical inspection should be carried out in intimate conjunction with the public health authorities and under the direct supervision of the medical officer of health." For, as they point out, "*school hygiene* cannot be divorced from *home hygiene*, and this in turn is intimately bound up with the hygienic conditions of the community." Efficiency and economy require, therefore, an organic relationship between the daily work of the school authority and of the authority responsible for the administration of the wider branches of public health.

The value of a close relationship between the medical officer of the school and the medical officer of health is at once apparent in connexion with this question of open tuberculosis in the homes of the children, for it is essential that the school medical officer should be informed of all cases of tuberculosis present in the homes whence the children come. These children could then be specially supervised and if need be given special care. The medical officer of health on his part, by means of inspectors, &c., would do what lay in his power to educate the consumptive parent as to the necessary hygienic measures and when advisable suggest the removal of the infectious person to the union infirmary. It is generally accepted that latent tuberculosis is more frequently found among the children of consumptives and also that the children of tuberculous parents are predisposed to infection. Thus it is very desirable that the existence of "open" tuberculosis in the parent or parents of the children should be reported to the medical man in charge of a school. With the facts obtained by a careful medical examination and the data supplied by the public health department the children may be classified as I have suggested and can then be dealt with according to their class. Those who have active tuberculous disease must not be allowed to continue in attendance; the medical officer of health should be notified and the parents told to obtain medical advice either from their own medical man or if too poor, to attend a hospital. In a few instances sanatorium treatment might be advisable. The question how to deal with the much larger group of children—those who are predisposed to phthisis or who have tuberculous parents at home—is much more difficult and much more important. Various methods have been employed. In France, in Germany, and in a few instances in England there are schools in the country where the children can receive the benefit of appropriate treatment and proper nourishment while at the same time they are being educated. In England these schools are private ventures but in France and Germany I understand there are special primary schools; more than that, there are sanatoriums and nursing homes and open-air schools. At the best, however, the method is expensive and can only be largely utilised when taken up by the Government or by some wealthy philanthropic body. In the industrial day-schools, where the children are fed as well as taught, it is not difficult to increase the dietary of those who are predisposed to tuberculosis and to order them cod-liver oil and so forth but in the primary and secondary schools it is more difficult. Something should be done by notifying the parents of the importance of a full diet and it might be possible to take special measures during school hours. These are the children to be more particularly considered and whose resisting power must be increased by every available means. They *must not be overworked*, they must have *sufficient sleep*, and they *must be well fed*. A *careful record of their weight* would be of value as an indication of the effect of the stress of school life and of the special treatment which they receive.

The most important hygienic step is, however, the segregation of those incurable cases of pulmonary tuberculosis which are a constant menace to the health of all who come into close contact with them. The house becomes infected, and the infants and young children toddling about and crawling over the infected carpets and floors take in those bacilli which in later years will cause their death.

Dr. A. Newsholme believes that the more rapid reduction of the death-rate from consumption in England as compared with Ireland and France is due to the segregation of so many advanced cases in the workhouse infirmaries.[7] For three years I was assistant medical officer in a large union infirmary where the tuberculous patients formed a fair percentage of the inmates. There were about 80 cases of advanced phthisis in a hospital of some 700 beds. Other union infirmaries tell the same tale. In this way many dangerous sources of infection are removed. Ireland appears to be realising the importance of this, for I see that during 1907 973 deaths from tuberculosis were registered in the city of Dublin; and of these 321 died in workhouses, 271 died in hospital, and only 381 of the 973 died in private houses. The more this method of segregation can be carried out the better for the community and I look forward to the time when the municipalities, in addition to providing wards or "homes" for incurable and disabled consumptives, will have open-air industrial colonies for those who, while suffering from tuberculosis, are still able in some degree to support themselves. These colonies would be of great service in yet more fully localising and isolating cases of open tuberculosis. Segregation is the thing to be aimed at, for to prevent infection is to prevent tuberculosis. By segregation of the infectious cases we purify the homes, and nothing makes for healthy children more than healthy homes. The home is the point at which health must ultimately be controlled.

The inspection of the school medical officer must, of

[5] THE LANCET, Oct. 6th, 1906, p. 961.
[6] THE LANCET, July 14th, 1906, p. 128.

[7] THE LANCET, June 2nd, 1906, p. 1544.

course, include the teachers, the caretaker, and any other persons employed on the school premises. It is well known what a high mortality from consumption there is amongst teachers. I have a very vivid recollection of my Latin master who coughed and hawked away for several years until in the end he became incapacitated by the pulmonary tuberculosis from which he ultimately died. With adequate medical inspection such a thing to-day would not be possible. This high mortality among teachers is a grave reflection on the ventilation and general hygiene of the schools where they have to work.

We now come to the third division of our subject—namely, the importance of the school as a factor in the formation of public opinion, in the dissemination of correct ideas concerning tuberculosis, and in the education of the parents by the children. This factor I believe is of far-reaching and cumulative importance. In spite of all that has been written and said during the last ten years the great bulk of the poorer classes have as yet only the vaguest and often incorrect ideas concerning consumption and the means by which the infection is spread. As an example of this let me tell you the following. A man who was suffering from somewhat extensive pulmonary tuberculosis was being carefully instructed by his medical attendant about the importance of always destroying his sputum either by spitting into a cup containing a disinfectant or by burning it in the fire. He answered, "Oh, doctor, you needn't trouble about me, for whenever I spit I put my foot on it!" When the children once get accurate knowledge of these matters such ignorance will rapidly disappear. There is no more talkative missionary than a youngster full of what he considers important information. The children must be taught the elementary facts concerning the hygiene of tuberculosis, the close relationship between alcoholism and consumption, the dangers of expectoration and coughing, the infectivity of consumption, the value of fresh air, and the many measures to be adopted to prevent the spread of the disease. In order to have this effectually done I would include hygiene and temperance among the subjects concerning which the inspectors must report.[8] The teachers themselves must first be taught and I strongly urge that they should be very thoroughly grounded in the fundamental facts bearing on infection, the varying virulence of the infective agent, and the differing resisting power of the host or person infected. To quote Professor H. Corby, "The teacher should strive to become an apostle and evangelist of hygiene."[9]

Enthusiasm in the teachers begets enthusiasm in the taught. Children have a lively sense of their importance and many of them are delighted to be charged with a gospel. As an example of the help which they can at times give Dr. E. W. Hope, the medical officer of health of Liverpool, tells me that at the time of the last census all the teachers of the elementary schools in Liverpool explained the meaning of the census to the children with the help of a leaflet issued by the public health department. The youngsters went home full of importance and helped their parents to fill in the necessary form with the result that the returns were much more accurate than usual.

To summarise, in conclusion:—1. Without infection there is no tuberculosis. 2. Pulmonary tuberculosis is either "open," in which case the patients are infectious, or "closed," then the patients are not dangerous to others. 3. School-going children as a class are healthy, only ½ per cent. show definite signs of pulmonary tuberculosis. About from 10 to 15 per cent. are predisposed to consumption and in all probability suffer from latent tuberculosis. Special care should be given to these children. 4. In Ireland these percentages are higher. The *periodical medical examination* of the scholars, teachers, and caretakers is essential, and every effort should be made to obtain this boon for Ireland. 5. School hygiene cannot be divorced from home hygiene. 6. The active coöperation of the school medical officer and the medical officer of health is most desirable and tends to efficiency and economy of administration. 7. Tuberculosis of infants and children is almost always due to human infection and that infection generally occurs at home. 8. The segregation of incurable and dangerous consumptives in union infirmaries and elsewhere will greatly diminish the incidence of infection among infants and young children. 9. The children must be utilised to educate their parents. The schools should be centres for the dissemination of accurate information concerning consumption and thus help to form public opinion.

Liverpool.

[8] THE LANCET, Nov. 17th, 1906, p. 1393.

[9] Annual Congress of the Royal Institute of Public Health, 1906. THE LANCET, July 14th, 1906.

THE EXPERIMENTAL PRODUCTION OF GASTRIC ULCERATION BY INJECTION OF GASTROTOXIN.[1]

BY CHARLES BOLTON, M.D., D.SC. LOND., M.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL; RESEARCH SCHOLAR OF THE GROCERS' COMPANY.

FOR the past five years I have been working upon the pathology of gastric ulceration from an entirely new point of view. Some of my results have already been published in three communications to the Royal Society,[2] and it is my intention to-night to give you a short *résumé* of the main features of the work.

Starting from the facts that specific bacteriolytic sera could be obtained which would destroy the bacteria against which they were formed, and that similarly hæmolytic sera active against red blood corpuscles and in a few instances cytolytic sera had been produced, I conceived the idea of preparing a gastrotoxic serum active against gastric cells, thinking that this would throw light not only upon the phenomena of cytotoxic action but also upon the obscure problem of gastric ulceration. I succeeded in producing such a serum, and without further introduction will describe—first, the method of preparation of the serum; and secondly, the action of the serum: (*a*) on injection into the living animal and (*b*) in the test tube.

I.—*Method of Preparation of the Serum.*

The serum is prepared by injecting the gastric cells of one animal into another, the blood serum of the injected animal becoming poisonous for the kind of gastric cells which have been injected. Three sera have in this way been obtained: (1) By injection of the gastric cells of the guinea-pig into the rabbit; (2) by injection of the gastric cells of the rabbit into the rabbit; and (3) by injection of human gastric cells into the rabbit or the domestic fowl. The human stomach was obtained from operation cases at the hospital, the mucous membrane being scraped off and injected forthwith into the rabbit or fowl. In the other cases the rabbit or guinea-pig, as the case may be, whose gastric cells are to be injected is starved for 24 hours to insure the stomach being empty. The animal is killed, the thoracic viscera are cut out, and a cannula is inserted into the thoracic aorta, through which a stream of sterilised salt solution is run until the abdominal organs are washed quite free from blood. The stomach is cut out, opened, and thoroughly washed. The mucous membrane is then scraped off on a sterilised plate, ground up into an emulsion with salt solution, and injected into the peritoneal cavity of a rabbit. A fresh filtered extract of mucous membrane may be used, but it takes longer to prepare and on the whole does not possess any advantages over the injection of the cells themselves. After seven or ten days the injection is repeated, and when four or five have been given the blood serum of the injected rabbit is found to be highly toxic. The blood is obtained by opening a vessel of the ear, and in this way from 30 to 40 cubic centimetres can easily be obtained each week. The animal may be thus alternately bled and injected for about two months, or more in some cases, after which the toxicity of the serum falls. The blood is whipped and centrifugalised and the serum is always used fresh on the day on which it is obtained. I have immunised more than 150 rabbits in this way during the course of my work.

II.—*Action of the Serum on Injection.*

The following remarks apply to the serum obtained by injecting the rabbit with guinea-pig's stomach cells. No lesion is found in the stomach of the rabbit which has formed the gastrotoxin and no lesion results on injection of the serum into another rabbit. In half an hour after intraperitoneal injection of the serum into a guinea-pig the symptoms of intoxication are well marked and death occurs

[1] A paper read before the Medical Society of London on Feb. 24th, 1908.

[2] Proceedings of the Royal Society: (*a*) vol. lxxiv., p. 135, 1904 (*b*) B. vol. lxxvii., p. 426, 1906; (*c*) B. vol. lxxix., p. 533, 1907.

within 24 hours. Doses of from 1 to 5 cubic centimetres are more or less uncertain in their action, but a dose of 10 cubic centimetres is fatal for a guinea-pig weighing from 200 to 300 grammes within 24 hours.

The post-mortem lesions are limited to the stomach and always occur during the first 24 hours after injection. If an animal survive, lesions are found on the next day in its stomach if the dose has been sufficient, and no further lesions nor any symptoms occur after this time. The intestine may be extremely congested but shows no other lesion. This limitation of the lesions to the stomach does not indicate that the serum is specific in its action. Other tissues are also affected as the symptoms and death of the animal shows. I have proved that this is the case by studying the action of the serum on other tissues *in vitro*, and also by showing that sera formed against other tissues are able to produce, although to a less extent, precisely similar lesions in the stomach. The lesions consist of patches of necrosis in the mucous membrane. The areas of necrosis are stained black by altered blood pigment; they are usually multiple and very often nearly the whole mucous membrane is affected, but sometimes only two or three patches may be present or even one only. The patches vary in size from that of a pin's head to that of a large area occupying a third or more of the mucous membrane of the stomach. The patches are sharply marked off from the rest of the mucous membrane which appears to be normal and they are found most commonly near or on one of the curvatures, but may occur anywhere in the stomach. After from 24 to 48 hours the black tissue has completely disappeared, leaving perfectly clean and sharply punched-out ulcers.

On microscopic examination the necrosed patches are quite sharply marked off from the normal tissue and do not extend beyond the muscularis mucosæ, the muscular and peritoneal coats being normal.

The blood in the vessels is generally normal and frequently so when they are situated in the necrosed patch. In other cases it is hæmolysed and may occasionally infiltrate the submucous tissue. The gland cells in the necrosed patch are either very faintly stained, or quite unstained, their outlines being clouded and the cells shrunken, or the whole patch may look like a brownish coagulated mass in which no structure can be made out; at other times strands of interstitial tissue alone are seen, the gland cells having completely disappeared. The process evidently begins at the free surface of the mucous membrane and extends towards the bases of the glands, because cases are seen in which some patches are situated on the surface of the mucous membrane only. After 48 hours the edges and base of the ulcer are found to be infiltrated with leucocytes.

In order to study the healing of these ulcers I have found it necessary to inject the serum directly into the stomach wall of the guinea-pig after opening the abdomen aseptically, because if one injects into the blood stream an amount sufficient to produce ulceration the animal nearly always dies. If 2 cubic centimetres of normal guinea-pig's serum, normal rabbit's serum, or salt solution be injected into the wall of the guinea-pig's stomach so as to cause a local œdema, it will be found by the next day or the day after that the solution has been completely absorbed and that no lesion has resulted; but if 1 cubic centimetre or 1½ cubic centimetres of the gastrotoxic serum be similarly injected an ulcer will result. In this way an ulcer similar to those described above may be produced without toxic symptoms. The size of the ulcer depends on the strength and amount of the serum injected. The mucous membrane overlying the injected spot necroses and by the fourth or fifth day has separated, leaving a cleanly punched-out ulcer. I have followed the stages of healing of such ulcers and have found that they become completely healed in from 14 to 28 days, leaving only more or less thickening of the peritoneum and sometimes a little puckering of the mucous membrane. So that one has here a poison which on injection into an animal causes a day's general illness, and if the animal survive leaves ulceration of the stomach which heals up as ulcers produced experimentally in other ways do in from 14 to 28 days. The ulcer may not heal in this way but on the third or fourth day may perforate and give rise to death from general peritonitis, or it may form a local abscess by adhesion to a neighbouring organ. No perforation or local abscess is formed after the first few days. No doubt if it encountered a large blood-vessel gastric hæmorrhage would result.

Mode of action of the gastrotoxin.—I have been able to show that the gastrotoxin of itself is unable to produce necrosis and ulceration of the mucous membrane of the stomach. The actual necrosis is brought about by the gastric juice, and if the gastric juice be put out of action no microscopic lesion can be found as the result of the action of the serum. Although some authorities at the present day consider that the gastric juice plays an important part in the production of gastric ulcer, whilst others deny this supposition, I have not been able to find any experimental evidence that self-digestion actually occurs. Of course, it is quite clear that if the gastric cells are killed by any means, as, for instance, when the blood-supply is cut off or by mechanical or other injury, the gastric juice will digest them, as it does any foreign proteid substance, but I refer to self digestion of the stomach in which the gastric juice attacks a gastric cell which shows no deviation from the normal on microscopic examination.

In order to put the gastric juice out of action, whilst the poison is acting, it is merely necessary to introduce into the guinea-pig's stomach by an œsophageal tube about 15 cubic centimetres of sodium bicarbonate solution, of any strength from 0·8 per cent. upwards, before injecting the serum into the peritoneal cavity. At the same time a control guinea-pig must be injected with the same amount of the same serum at the same time. I have done many such experiments and in all the cases in which the gastric juice was previously neutralised no necrosis of the stomach was produced, but in all the control animals the usual black patches were visible in the mucous membrane. The poison therefore produces some change in the gastric cells which renders them susceptible to the action of the gastric juice. This result is important from the point of view of cytotoxins, because so few observers have ever been able to find any microscopic change on injecting different cytotoxins, and my results show that a change really does occur although it cannot be detected histologically. It is also important from the point of view of gastric ulceration, because it proves that a poison may circulate in the blood which is capable of initiating self-digestion. Whether this is brought about by the neutralisation of some specific resisting power possessed by the cells or whether by merely injuring them, in which case many other poisons may be capable of bringing about the same result, is a very important question. Further observations which I have made tend to show that it is a question of injury to the cell, because other poisons, which cannot be supposed to have any influence on any supposed specific resisting power, may, like gastrotoxin, initiate self-digestion.

Cytotoxic sera obtained by injection of liver cells, cells of the mucous membrane of the intestine, and red blood corpuscles produce necrotic patches in the stomach, which I have shown to be the result of self-digestion by the method of neutralisation of the gastric juice. These sera do not produce such a marked effect upon the stomach as gastrotoxic serum, but when they do produce lesions they are of the same nature. It is therefore probably a fact that all the cytotoxic sera contain a common protoplasmic poison, which is especially toxic for the kind of cell against which it has been formed, but which acts upon all other kinds of cells to a less extent; or if each poison formed against a separate organ is distinct, then they are so nearly allied that their actions overlap and destroy their specificity.

Certain protoplasmic poisons introduced into the stomach may likewise initiate self-digestion by injuring the cells. In the case of the guinea-pig dilute hydrochloric acid up to the strength of 0·7 per cent. may be introduced into the stomach and no harm will result, but if the strength exceed this necrosis of the stomach and ulceration will be produced. Dilute sulphuric acid above 0·8 per cent., dilute lactic acid above 4 per cent., and dilute acetic acid above 2 per cent. will also produce necrosis. If the animal be poisoned with gastrotoxic serum the introduction of these solutions into the stomach, in much greater dilution than is necessary to produce necrosis, will markedly increase the lesions. For instance, if a guinea-pig be injected with a dose of the serum and if at the same time a 0·3 to 0·7 per cent. solution of hydrochloric acid, which is itself inactive, be introduced into the stomach the lesions are much more marked than in the control animal. One has here the two protoplasmic poisons combining to produce self-digestion. It is not possible for hyperacidity of the gastric juice ever to reach such a height as to cause ulceration of itself, but it may increase the tendency to such ulceration not by increasing the peptic activity of the gastric juice but by acting as a protoplasmic poison.

However produced gastric ulcers heal in from 14 to 28 days provided that the health of the body is normal, and that the food, the gastric secretion, and the motor activity of the stomach are also normal. It becomes now necessary to inquire whether any conditions exist which may retard the healing of a gastric ulcer and make it become chronic. This is a subject upon which I am working at the present time, but I have already obtained a few interesting results. I first endeavoured to ascertain whether repeated injection of the gastrotoxic serum would lead to chronic ulceration of the stomach, and I found that far from this being the case the animals developed immunity to the serum. 5 cubic centimetres of the serum heated to 55° C. for half an hour were injected each week and after 10 or 12 injections the animals were protected against a lethal dose of the serum. The serum also had the power of conferring passive immunity upon another guinea-pig, so that when it was injected with a mixture of gastrotoxic serum and immune serum no lesion resulted.

In order to study the effects of abnormal local conditions upon the healing of the ulcer I have used the method of local injection into the stomach wall to produce the ulcer in the first instance. It is quite easy to inject the serum into the anterior or posterior wall or near the cardiac or pyloric orifice, and I have found that ulcers produced in these positions heal with equal rapidity in animals otherwise normal. The effects of hyperacidity of the gastric juice have been tested by feeding the animals in which ulcers had been produced with food soaked in 0·6 per cent. hydrochloric acid solution. This is a high degree of acidity and the guinea-pigs do not like it, but they will eat the food when they are hungry. I have found that on this diet the ulcers heal up quite as quickly as on a normal diet. Hydrochloric acid combined with proteid was also used and the result was the same whether the ulcer was situated in the body or at the pyloric end of the stomach.

With regard to partial neutralisation of the gastric juice I cannot say very much as the experiments are still in progress. The animals are fed on food soaked in 4 per cent. sodium bicarbonate solution. The base of the ulcer is not so clean as when the gastric juice is active and there appears to be more thickening, but I have not yet ascertained whether the healing is delayed. These results are due to the growth of bacteria in the ulcer, which normally should be inhibited by the acid gastric juice.

I will now leave this part of the subject, as my observations on the effects of motor insufficiency are too immature to record and will consider the action of the serum *in vitro*.

III.—*Analysis of the Serum in the Test-tube.*

The serum is capable of bringing about two well-defined reactions *in vitro*:—It is (1) hæmolytic, and (2) contains several precipitins.

1. *Hæmolysin.*—The normal serum of the rabbit is to some extent hæmolytic for guinea-pig's red blood corpuscles; this property is destroyed by heat and the heated serum cannot be re-activated by normal guinea-pig's serum which does not contain a suitable complement. I have been able to demonstrate that the gastrotoxin contains two distinct hæmolysins. The first hæmolysin is an increase of the normal hæmolysin of the rabbit. The increase occurs a few days after the first injection of gastric cells. The second hæmolysin is an artificial product and is distinguished from the former because after heating it can be re-activated by normal guinea-pig's complement. It appears in the blood serum at a later date and is only found in any considerable amount after a second injection of gastric cells has been administered. The hæmolysin is directly produced by absorption of the stomach cells and not of blood corpuscles, because the stomach cells are washed quite free from blood before injection.

This hæmolytic factor takes no part in the production of the gastric necrosis, because it has been already shown that the lesions are not the result of hæmorrhage, and in addition to this if the gastrotoxin be previously mixed with guinea-pig's stomach cells *in vitro* it is thereby rendered incapable of producing lesions on injection, although it can still hæmolyse blood corpuscles. I may here mention that the hæmorrhages produced by a hæmolytic serum are not due to the factor liberating the hæmoglobin from the red corpuscles, but are due to a protoplasmic poison acting upon the capillary wall, the so-called hæmorrhagin.

2. *Precipitins.*—The gastrotoxic serum possesses the property of precipitating the soluble proteid contained in a saline extract of guinea-pig's stomach cells. Such an extract is made by grinding up the cells with normal salt solution in a glass mortar and filtering through a Berkefeld filter. A clear albuminous solution is thus obtained. The addition of a few drops of this solution to the immune serum results in the formation of a well-marked precipitate, which collects at the bottom of the tube, forming a thick deposit. The serum will likewise precipitate albuminous extracts of liver and small intestine cells and the blood serum of the guinea-pig. The strongest action is, however, exerted upon the extract of stomach cells.

I have been able to show that these precipitins are multiple, as they can be separated one by one from solution and during the process of immunisation the different precipitins appear at different times in the blood serum. Removal of the precipitin for the stomach cell proteid, however, destroys the power of the serum to precipitate any other albuminous fluid. The precipitins, therefore, for the various organic extracts of the body are different, but their actions overlap to a considerable extent. Absolute specificity does not exist. These precipitins play no part in the production of the necrotic patches in the stomach, because it is well known that precipitins cause no lesion on injection, the precipitate being soluble in excess of the precipitable substance, so that any precipitate formed would be dissolved by the excess of the animals' fluids present.

3. *Gastrolysin.*—I have never observed solution of the gastric cells in the test-tube. A more or less definite hyaline change occurs in the cells, but I do not wish to lay any great stress on this point at present, because it is only very slight and I have not yet succeeded in determining its nature. I will merely here repeat what I have stated before that there is a definite poison present in the serum which attacks the cells themselves *in vivo*, and that the lesions are brought about by the interaction of an immune body and complement, and further that actual necrosis of the cell does not result, but merely a functional change rendering it susceptible to the action of the gastric juice.

IV.—*Specificity of the Gastrotoxin.*

The specificity has been tested by ascertaining (1) whether the gastrotoxin has the power of acting upon other tissues; (2) whether sera formed against other tissues can act upon gastric cells; and (3) what power various tissues possess of removing the gastrotoxin from solution by combining with it, thus rendering the serum inactive.

1. *Action of the gastrotoxin upon other tissues.*—I have already stated that the serum can hæmolyse red blood corpuscles and precipitate the albuminous extracts of other tissues in the test-tube. Although no gross lesion can be found *in vivo* apart from those of the stomach, the facts that the animal is killed and that it exhibits marked symptoms of intoxication are quite sufficient to show that the action is not limited to the stomach.

2. *Action of other sera.*—Three sera have been used—hepatotoxin, enterotoxin, and hæmolysin, formed respectively by injecting liver cells, intestine cells, and red blood corpuscles.

Each serum on injection produces gastric lesions of the same character as those produced by the gastrotoxin, but of a much less pronounced nature generally. I have been able to show that this is likewise a process of self-digestion, and that the various acids mentioned above on introduction into the stomach increase the lesions. Hepatotoxin and enterotoxin are hæmolytic in the test-tube and they contain multiple precipitins which act most powerfully on the tissues against which they are formed.

3. *Removal of the gastrotoxin by various tissues.*—The serum was exposed to the action of various cells of the guinea-pig previously to injection. Gastric cells are able to remove completely the poison and to render the serum inactive. Liver and intestinal cells can do so to some extent. If the serum is a weak one the action may be destroyed, but otherwise it is merely reduced. Red blood corpuscles are also able to some extent to remove the poison. The hæmolytic factor of the gastrotoxin can be removed from solution by liver and intestinal cells and red blood corpuscles, but gastric cells, although they render the serum inactive *in vivo*, are unable to combine with the hæmolysin and to prevent its action *in vitro*. Rabbit's tissues are absolutely unable to affect the action of the serum. It is probably the case that all the cytotoxic sera are of the same nature, and that each serum contains poisons which will attack all the cells of the body but more especially the cells

against which it is formed. Absolute specificity is therefore unknown.

V.—*Human Gastrotoxin.*

I have been able to show that a serum can be prepared which is active against human gastric cells. All that need be said in this connexion is that the reactions displayed by this serum in the test-tube are absolutely the same as I have already described above.

VI.—*Gastrotoxic Serum produced by Injecting the Rabbit with Rabbit's Gastric Cells.*

The rabbit does not respond very readily to the injection of rabbit's stomach cells, but that it does respond I have been able to prove. The serum so obtained produces no effect upon the rabbit itself nor upon any other rabbit, but it is toxic for the guinea-pig. The symptoms and post-mortem lesions occurring in the guinea-pig as the result of injection of this serum are identical with those which have been described in the case of the guinea-pig-rabbit gastrotoxic serum. The stomach lesions consist of patches of necrosis and ulceration. Previous mixture with rabbit's stomach cells does not render the serum inactive, thereby showing that these cells have no affinities corresponding to those of the immune body acting upon the guinea-pig's tissues. It is more than likely that the rabbit during the absorption of rabbit's tissues, in addition to producing a poison acting upon the guinea-pig's tissues, also forms one acting upon its own, but that this action is prevented by the concomitant formation of an anti-immune body or anti-complement. I have already stated that the normal rabbit produces a hæmolysin for the guinea-pig's corpuscles, which it no doubt forms in response to the absorption of its own tissues. So far as we know the same immunising mechanism, which is concerned in the production of an immune body, is also concerned in the production of an anti-immune body or anti-complement. It seems, therefore, that the formation of an anti-body is the natural consequence of the formation of an immune body. Whether any conditions exist which can upset the formation of the one and leave the other intact, thereby leading to an auto-intoxication, we have yet no experimental data to assist us in deciding.

VII.—*Conclusion.*

It would be premature to apply these results directly to the explanation of human gastric ulcer, but they open up new lines of thought along which to prosecute further research. It is possible that not only certain endogenous but also certain exogenous poisons may be capable of initiating self-digestion through the blood stream and that the production of such lesions may be facilitated not only by hyperacidity of the gastric juice but also by other bodies introduced with the food. It seems that all ulcers produced by digestion of dead or devitalised tissue are essentially acute and, since human gastric ulcer is commonly a chronic malady, it is not so much the actual mode of production which it is necessary to explain as the fact that the ulcer so persistingly refuses to heal. It is possible that this chronicity may depend upon a secondary bacterial infection of the ulcer largely owing to muscular insufficiency, but upon the latter point I hope to be able to speak more definitely at a future date.

Devonshire-street, W.

LEPROSY: SOME NOTES ON ITS CAUSATION, SYMPTOMS, AND TREATMENT,

BASED ON AN EXPERIENCE OF 152 LEPERS IN THE LEPER JAIL OF THE UNITED PROVINCES, INDIA.[1]

BY THOMAS HUNTER, M.A., B.Sc., M.D. GLASG.,
CAPTAIN, I.M.S.

FROM April 26th, 1905, to Feb. 24th, 1907, in addition to the ordinary duties of a civil surgeon of the Indian Medical Service I held the post of superintendent of the Rai Bareli jail. This jail has a population of about 500 prisoners and in it is a block for leper prisoners. To this block are sent all leper convicts sentenced in the United Provinces of Agra and Oudh. On the day on which I took over charge of the jail the leper block contained 64 lepers and during my term as superintendent 88 lepers were admitted. Out of this total of 152 lepers 24 were for various reasons not examined in detail by me personally. On the records of the balance, 128 lepers, this thesis is based. The total number of cases examined with reference to certain points it will be found is not always the same, as in some of the cases remaining when I took over charge complete notes were not recorded, but the figures given for the various inquiries in all cases refer to series of prisoners without selection.

[1] Thesis for M.D. degree, University of Glasgow.

PART I.—CAUSATION.

The causation of leprosy, in spite of the discovery of the bacillus lepræ, the immediate cause of the symptoms of the disease, remains the subject of discussion. The weight of opinion is that the disease is contagious and that each new case arises by contagion from another case. Opposed to this is the opinion so strongly held by Mr. Jonathan Hutchinson that leprosy arises from the eating of bad fish. More recent than both of these is the suggestion that the disease is conveyed by the bite of the mosquito and the bed bug. The third of these explanations of the origin of leprosy will be little more than mentioned. A letter signed by E. S. Goodhue, Government physician, Hawaii, which appeared in THE LANCET of May 12th, 1906, p. 1347, claimed that bacilli lepræ had been discovered in mosquitoes (*Culex pinguis*) and bed bugs (*Cimex lectularius*) by Dr. W. J. Goodhue, medical superintendent of Molokai Leper Settlement, and suggested that those were the spreading agents. Details have not yet been published, but that the disease should be, even to any great extent, communicated by mosquitoes or bed bugs seems improbable when one considers the comparatively small number of persons affected in a country like India, where mosquitoes and bed bugs are practically of universal distribution, and when one contrasts the prevalence of leprosy with that of malaria, a mosquito-spread disease.

That leprosy is caused by fish-eating is a proposition that has more of the elements of probability, and when supported by the weighty authority of Mr. Hutchinson is one which demands careful consideration. This is no new doctrine in India, for it is a common belief amongst natives of that country that fish food, and especially fish eaten with milk, may bring on leprosy. The Indian Leprosy Commission of 1890–91 considered the question of fish-eating as a possible causative factor, and after examination of several hundred persons affected the commissioners put on record their opinion that there "was no doubt that the consumption of fish was not the cause of leprosy."[2] Mr. Hutchinson was not satisfied with that verdict, however, and having in 1902–03 toured India to investigate at first hand evidence for or against his hypothesis, he has stated in his book published on the subject that "he came away with an assured conviction that whilst there is in India very much which gives strong support to the fish hypothesis there is nowhere anything which controverts it."[3]

Mr. Hutchinson is inclined to refuse due weight to the statistics of the Indian Leprosy Commission and to get behind them by saying that many reasons combined to render open to doubt statements made by lepers about having eaten or not having eaten fish. He points out that the native of India is very apt to answer not according to actual fact but according to fancy or according as he thinks he is wanted to answer; and he thinks the commissioners may have been satisfied with an easy inquiry and that they may have too readily accepted answers given them. The commission report, too, he says, does not specify whether fresh fish or salted fish, fresh-water fish or sea fish, was inquired about, and he believes that confusion from misunderstandings on these points may have falsified their figures. And finally he states that since the commission report the fish hypothesis has embraced "commensal communication" as a possible additional factor in the spread of the disease. In the present inquiry the fish hypothesis has been considered with all these points in mind.

The fish hypothesis as held by Mr. Hutchinson briefly stated is that leprosy is acquired by eating bad fish, but that in some few cases persons who have never eaten fish may have acquired the disease from food contaminated by having been touched by a leper (commensal communication). Uncured, non-salted fish kept till decomposition has set in is not excluded,[4] but according to Mr. Hutchinson

[2] Report of the Indian Leprosy Commission, p. 344.
[3] On Leprosy and Fish Eating, by Jonathan Hutchinson, p. 122.
[4] Ibid., pp. v., 44–46.

badly cured fish is the chief cause of the disease.[5] The evidence for or against uncured fish, cured fish, and contaminated food as causes of the disease will be taken up separately. In the inquiry on these points the following method was adopted. On admission to the jail the lepers were examined by me personally. When each man was questioned about having eaten fish it was made clear to him that the inquiry referred to fish of any kind eaten at any time and not only to the habitual use of fish as an article of diet. Each man, moreover, was examined apart from the other prisoners. The facts thus elicited were recorded in each man's history and it is worthy of note that a subsequent inquiry made to check these original entries detected only one discrepancy. This subsequent inquiry was conducted towards the end of my term as superintendent and was completed on one afternoon. No previous intimation of it was given to anyone, warder or prisoner. Each leper in the jail on that particular day—the total was 63—was taken apart from the others and questioned on the subject of fish-eating with the same care as has been noted above. No one knew beforehand the purpose for which he was taken out of sight and earshot of the other prisoners, and having been questioned no prisoner was allowed to return or communicate with those waiting for examination. The only man whose second statement did not agree with that made on admission was a Brahman who on admission said he might have eaten fish as a child and at the second inquiry said he had never eaten fish.

The examination of the prisoners brought out the fact that fish was extensively used as an article of diet throughout the United Provinces, but that the fish eaten was fresh fish. This is easily procurable at most places from river or tank at some season of the year and apparently is a common article of diet with all castes except Brahmans and Bannias. Of 128 leper prisoners examined in Rai Bareli jail 34 (or 26·60 per cent.) denied having eaten fish at any time. As a means of comparison a series of 128 consecutive prisoners of the ordinary jail—i.e., non-lepers—were questioned on the point with the same precautions as had been exercised with the lepers, and of these 35 (or 26·66 per cent.) denied ever having eaten fish. The proportions of fish-eaters among lepers and non-lepers therefore were practically the same.

With a view to comparing lepers and non-lepers as far as fish-eating goes another plan was adopted. Amongst Hindus the two castes whose tenets most strictly enjoin vegetarianism are Brahmans and Bannias. Mr. Hutchinson would doubt the veracity of a Brahman or a Bannia who asserted that he had never eaten fish; but there can be no doubt about it that it is distinctly exceptional to find in the United Provinces a man of either of those castes who is not a strict vegetarian. If fish-eating then is the cause of leprosy one would expect that the proportion of Brahmans and Bannias amongst lepers would be less than the proportion of those castes amongst the general population; and similarly that the proportion of Brahman and Bannia leper prisoners to the total leper prisoners would be less than the proportion of Brahman and Bannia non-leper prisoners to the total non-leper prisoners of the ordinary jail.

The admissions to the jail for the period April 26th, 1905, to the end of November, 1906, were scrutinised and it was found that this difference did not exist. In 84 lepers admitted there were 11 Brahmans and Bannias (or 13·10 per cent.), whereas in 1234 non-leper admissions Brahmans and Bannias totalled 164 (or 13·29 per cent.). The difference is nominal. The figures of the 1901 Census of the United Provinces give still more convincing evidence of this kind, and a few extracted from p. 206 of the Census Report are here given.

Lepers per 10,000.

	Males.	Females.
General population	3·59	1·08
Brahmans	4·05	1·16
Bannias	3·41	0·95
Chamars (a very low caste who eat anything)	2·89	0·93

"The highest caste in the Hindus—viz., the Brahmans—shows a larger proportion than any of the others."[6]

The available evidence, then, as derived from the above facts is against the hypothesis that leprosy in India is caused by eating uncured fish.

If facts observed in the United Provinces militate against the doctrine that the eating of bad fish not cured or dried is the cause of leprosy, much more so do they militate against the doctrine that eating badly cured fish may cause the disease. For some time no evidence could be obtained of the use in the United Provinces of anything in the nature of cured or dried fish at all. Prisoners and jail staffs, the latter educated Indians, except a few men who had visited Calcutta or Bombay, did not know of such an article of diet. Towards the end of the period of inquiry, however, it was found that certain prawns (jhinga), generally eaten fresh, were occasionally sun-dried and thus preserved for a few months. For the purpose of this inquiry these dried prawns were taken as cured fish. Even they, however, are very little used and many persons had never heard of them being preserved by drying. Inquiries were made from many educated Indians of all classes, and no other article of diet coming into the category of dried or salted fish could be discovered to be used in the United Provinces—excepting, of course, tinned fish imported for, and exclusively used by, Europeans. When the facts about the prawns were learned all the lepers then in the jail, 61 in number, were again carefully questioned, and this time direct questions were made about dried prawns. Of the 61 lepers 48 had never eaten cured prawns and 13 had eaten them at some time or other, most of these very occasionally, and as a rule only once or twice in their lives.

In getting at these figures the same precautions were adopted as have been noted above, and, moreover, of the 48 who had never eaten the dried prawns many readily admitted having eaten fresh fish. The figures are believed to be accurate. To compare lepers and non-lepers on this point, 61 consecutive non-leper prisoners of the ordinary jail were similarly questioned; of these, 11 admitted having at some time or other eaten dried prawns, while 50 had never tasted them. The difference is on the side of the hypothesis: but in view of the proportion of the lepers who had never eaten the dried crustacean it may be neglected, and it can be confidently asserted that there is no evidence in favour of the idea that the eating of bad preserved prawns is the cause of leprosy. It might be said that those who had never eaten prawns had acquired the disease by eating bad uncured fish and *vice versâ*. This possibility was examined. Of the 49 lepers who had never eaten cured prawns 13 had also never eaten fish and all the non-fish-eaters were also men who had never eaten prawns of any kind, fresh or cured. The general conclusion then from these facts is that in the United Provinces of Agra and Oudh no circumstantial evidence has been discovered supporting the hypothesis that leprosy as met with in that part of India is due to the eating of bad fish cured or uncured.

To explain cases where fish-eating cannot possibly have been the cause the fish hypothesis has lately embraced "commensal communication"—communication of the disease from a leper to a healthy person by that person eating food touched by the leper. This, which is really a restricted form of contagion, will now be considered in view of the histories given by the Rai Bareli lepers. The proportion of the leper prisoners in which there was no history of fish-eating, given above as 26·60 per cent., may be taken as at least approximately accurate. That such a large percentage acquired the disease through eating food contaminated by contact with a leper apparently even Mr. Hutchinson would think improbable.[7] The actual number of lepers believed never to have eaten fish was 34 and to 16 of these leper prisoners no other leper was known before admission to the jail. An hypothesis which declares the disease not contagious but which requires that out of 128 persons affected 16 acquired the disease by eating food in some way contaminated by a leper though no leper whatever was known to them and though the proportion of population affected is less than 3 per 10,000 cannot be said to be well substantiated.

But even more fatal to the idea of commensal communication than these figures is the infrequency of the communication from husband to wife. In India husbands and wives do not eat together. In rich, well-appointed households the wives have their food cooked apart from that of their husbands and eat it apart; but in poorer households the husbands eat first and after them from the same vessels the wives eat what is left. This latter arrangement holds in by far the majority of cases. Moreover, in India by all classes

[5] Ibid. pp. 45 and 49.

[6] Report of 1901 Census of the United Provinces of India, p. 203.

[7] Hutchinson: Leprosy and Fish-eating, p. 193.

food is eaten not with spoon, fork, or knife, but with the fingers directly. If then commensal communication is to be accepted as the explanation of how the disease has been acquired in many cases where the contamination of food must have been remote and of the slightest degree, such as cases where no acquaintance with lepers existed, individuals whose food is habitually exposed to such contamination should rarely escape the disease and communication of the disease from a leprous husband to his healthy wife should be the rule.

The prisoners' histories were here useless but the Report of the Indian Leprosy Commission, pp. 308–310, gives some figures directly bearing on the point. The Commission examined 381 couples of each of which one member was a leper. All these couples had lived together for at least five years and in 25 cases only was the disease traced from one member to the other. Of these 25 the Commissioners, for reasons not stated, eliminated six, leaving the number of communications from husband to wife or *vice versâ* at 19 or 4·9 per cent. Unfortunately, the proportion in which the leper member of the couple was the husband is not stated but it may be safely assumed that this was more often the case. These figures make it impossible to accept commensal communication as the mode of infection in non-fish-eaters knowing no other lepers.

The most general present-day opinion seems to be that leprosy is contagious. The histories of the leper prisoners are not full enough to give much evidence for or against the contagiousness of leprosy. Inquiries, however, were regularly made about the existence of leprosy in relatives, associates, or acquaintances, with the results tabulated below:—

Total number of lepers.	Leprosy in family.	Leprosy in associates.	Leprosy in acquaintances.	Knew no leper out of jail.
136	39	29	14	54

The absolute accuracy of the facts denoted by these figures, of course, cannot be vouched for. It is believed that they are true so far as the prisoners themselves knew, but naturally in a disease like leprosy which may exist for some time with little or no prominent symptoms the probabilities are that in an endemic centre such as India there are persons who are lepers, though this is not known to their friends and probably not even to themselves. Granting, then, that such cases may exist and admitting for the sake of argument that, as is suggested by Dr. R. Sinclair Black in his paper in THE LANCET of April 28th, 1908 (p. 1167), these cases may be "sources of infection," the error resulting from their omission is certain to be much smaller than the error in the other direction resulting from the fact that between prisoners on the one hand and relatives, associates, and acquaintances on the other it was impossible to determine priority of infection.

To return to the figures, out of 136 lepers 68 had leper relatives or associates, 14 knew a leper or lepers of other castes, and 54 knew no other leper. At a first glance this looks like a strong support of the contagiousness of the disease; the 54 who knew no other leper are apt to be lost sight of in the 68 who had some history of association with lepers. But this 68 really proves little. To support the theory that the disease is contagious what is wanted is the number of persons who have associated with lepers and of these the number who have acquired the disease. Such an inquiry was beyond the scope of this thesis.

The doctrine of the contagionists as enunciated by Professor Neisser at the International Congress on Dermatology, 1904,[8] is that the "disease is contagious and spread exclusively by lepers." A certain proportion of cases occur in individuals who have associated with other persons affected and extension by contagion might explain these; while cases, like the often-quoted one reported by Dr. Benson in the *Dublin Journal of Medical Science* for 1877,[9] seem to admit of no other explanation than that the disease spread by contagion to a healthy person from a leper. But the exact mode of diffusion remains undetermined, though in all such cases a long and intimate association seems necessary.

A certain other proportion of the cases of leprosy, however, arises where inquiries fail to trace a pre-existing case of the disease from which contagion could have been acquired. Of 136 lepers in Rai Bareli jail 54 it was shown were in this group. If the theory of the contagionists be accepted it must be presumed that such cases of leprosy acquired the disease during some chance unknown, and therefore in most cases at least during slight and fleeting association with a leper, unlike the long and intimate intercourse which seems to have been necessary in cases where the spread by contagion has been most clearly established. If such a presumption is passed it must be admitted that leprosy, at times, at least, is bound to be a very easily communicable malady. But all the known facts of the case are in conflict with this, and it is inconceivable that a very easily communicable disease which is very rarely cured, to restrict which practically no measures of segregation are practised, and of the sufferers from which very few have recourse to treatment, should show, as does leprosy, a steady decrease amongst the general population.[10] Again, occasional cases of leprosy reach Britain from countries where the disease is comparatively common but no danger is apprehended that these cases will act as foci for the extension of the disease in this country. Leprosy cannot be looked on as at all easily communicable and cases like the 54 above still await explanation.

One more point in this connexion is of the number of persons in intimate association with lepers the small proportion which actually acquires the disease. The Indian Leprosy Commission[11] investigated 104 cases of individuals who had long associated with lepers and of these only one, or possibly two, had acquired the disease. The records of the Rai Bareli jail give similar evidence. No warder in the institution has become infected. A dresser has worked amongst the lepers for nine years dressing sores daily, and although till recently he exercised no special precautions this man has not contracted the disease. And several cases are on record of prisoners admitted to the leper jail as doubtful lepers or under wrong diagnosis who remained in the leper block for long periods and who, finally, were transferred without having acquired the disease.

These facts do not negative contagion as a factor in the spread of the disease but they indicate that if the disease is a contagious one in addition to the actual contagium itself other conditions of not less importance are requisite before the contagium can act. What these conditions are remain undetermined. In the present state of our knowledge comparison with tuberculosis seems to provide the clearest conception of the method of diffusion of leprosy. In both diseases there seem to be well established examples of extension by direct contagion, in both in addition to the actual presence of the contagium vivum other conditions seem requisite before the disease can develop, and in both a certain number of cases arise so completely independently of other cases that the only satisfactory explanation which presents itself is a more or less general distribution of the respective bacilli (of the bacillus lepræ probably only in endemic areas) which remain capable, given the necessary conditions, of giving rise to the disease.

PART II.—SYMPTOMS.

Two distinct forms of the disease have been recognised, the maculo-anæsthetic and the nodular, and well-marked cases of these offer a striking contrast in appearance. But many lepers present the symptoms of both of these cardinal types, and therefore a grouping into three classes, maculo-anæsthetic, nodular, and mixed, has been made. This is the usual classification. Hansen, however, adopts two groups only, including in the nodular all mixed cases. The maculo-anæsthetic type is the less acute form of the disease and a noteworthy feature of the cases in Rai Bareli jail was the comparatively large number of the maculo-anæsthetic type.

[8] THE LANCET, Nov. 19th, 1904, p. 1453.

[9] A man whose brother came home from abroad a leper acquired the disease after having lived with the brother one and a half years and after the brother's death wore his clothes.

[10] The following table is taken from the Census Report of the United Provinces for 1906:—

Census year.	Leprosy totals.	Number per 10,000.	
		Males.	Females.
1881	17,822	6·30	1·59
1891	16,895	5·74	1·30
1901	11,328	3·59	1·08

[11] Indian Leprosy Commission Report, p. 321.

In 149 lepers there were 85 of this class, 11 nodular and 53 mixed, equivalent to a percentage proportion of—

Maculo-anæsthetic.	Nodular.	Mixed.
57·05	7·38	35·57

These proportions are very similar to those given by the Indian Leprosy Commission for India,[12] namely:—

Maculo-anæsthetic.	Nodular.	Mixed.
56·6	12·2	31

and they approximate to the percentage given by Hollis[13] for 188 cases in British Guiana, viz.:—

Maculo-anæsthetic.	Nodular.	Mixed.
54·80	18·08	27·12

They differ markedly, however, from Hansen's figures for Norway, which work out at practically—

Maculo-anæsthetic.	Nodular and mixed.
32	68

No explanation is vouchsafed for this difference. In Norway itself Hansen notes that dry inland regions show a greater number of maculo-anæsthetic cases than do most sea-coast districts.[14] The United Provinces of India is a very dry inland country.

The great majority of the cases in the jail were mild and visitors to the leper block were invariably surprised at the appearance of well-being of the lepers. Of these admitted after April 25th, 1905, only five were recorded as "bad cases," and a frequently recurring note in the records was, "Seems a man in good health but for maculæ." Hansen gives it as his opinion that "the natural termination of every case of nodular leprosy is to pass into the anæsthetic form if only, as occasionally happens, the patient live long enough."[15] The period during which the leper prisoners remained under observation was for the purpose of noting the development of such a chronic disease as leprosy very short, but with that proviso it falls to be recorded that while no case of nodular leprosy was noted to have passed into the maculo-anæsthetic form two cases were observed which, maculo-anæsthetic when first seen, developed nodules during the period they remained under observation. The records of the leper jail show frequent examples of this, but no instance of the opposite change. Further evidence of this development of maculo-anæsthetic into nodular or mixed leprosy seems to be presented by the not uncommon condition found in mixed cases—nodular infiltration slight and described by the sufferers as recent, together with contractures and deformities of limbs manifesting a maculo-anæsthetic infection of long standing.

In no case could a history of prodromal symptoms be elicited. However, to get from a native of India a history of the onset of the most acute disease is often a matter of the greatest difficulty, and little stress, therefore, can be put on the absence of prodromal symptoms in the history of a chronic disease like leprosy. The usual type of maculæ in those cases which presented this symptom was a patch of pale skin, not raised, more or less irregular in outline, and as a rule with a distinct margin passing directly without inflamed or hyper-pigmented border into normal skin. Out of 83 cases admitted about whom detailed notes were made 38 presented maculæ of this sort. In a few cases (five) the maculæ were of this pale kind but with a slightly reddened or inflamed margin, though there was no complaint of pain; and in a few others (four) the pale maculæ had a hyper-pigmented border. Two had a slightly raised scaly margin. Hyper-pigmented maculæ were noted in 11 cases; in seven of these the ordinary pale maculæ were also present. One of the 11 had a hyper-pigmented patch with a pale border. The size of the maculæ varied from that of a pea to tracts many square inches in extent; and the number from one or two patches to an affection so abundant that more skin was unhealthy than healthy. A few cases were seen where the skin might have been described as mottled. The parts of the body most affected were the back, chest, abdomen, buttocks, thighs, and upper arms. In one case the sole of one foot was distinctly affected. The distribution was frequently roughly symmetrical. It did not correspond at all with nerve distribution. In only two maculo-anæsthetic lepers was erythema noted, affecting in one the palm of one hand and in the other the abdominal wall and palms. Erythema was more often seen in nodular or mixed cases (one nodular and seven mixed) and generally marked a fairly acute infection. A thin glossy atrophic condition of the skin, generally of the extremities or back, was observed in 20 of the cases admitted, six of whom were maculo-anæsthetic, 12 mixed, and two nodular. A dry scaly condition of the skin was less often noted—in 11 cases, all maculo-anæsthetic or mixed. Atrophy of muscles (of the palms most frequently and next of the soles and then of the limbs generally) was one of the most common features of the disease (40 cases admitted), and almost as frequent were deformities of limbs from mutilation or contracture (34 admitted). Disturbance of perspiration was noted unequivocably only in one case. The man had distinct, well-defined, pale maculæ all over his chest, and these at the time of examination (during the rainy season) were absolutely dry, markedly contrasting with the healthy skin which was beaded with persiration.

The distribution of the anæsthesia found in the Rai Bareli lepers was not what was expected from a study of text-books. In a few cases some of the maculæ were anæsthetic, but maculæ which were anæsthetic or hyperæsthetic were the exception and the maculo-anæsthetic lepers examined conformed, with few exceptions, to one type, in which anæsthesia had no relation to the maculæ, seldom occurred in patches, and was, as a rule, confined to the distal parts of the extremities. Special attention was paid to the sensory condition of the maculæ. It has been said above that the usual type of macula was the pale patch of skin. At first it was thought that these pale patches were old maculæ and that earlier in their history they had been red or pigmented or scaly. No confirmation of this, however, could be obtained from the patients themselves; once or twice pale maculæ were noted to have increased in size during the prisoner's residence in jail, showing that some at least were recent, and finally when the distribution of anæsthesia came to be considered it was clear that the maculæ of the Indian leper differed from maculæ as described by Hansen, according to whom "pigmentation of the periphery and pallor of the centre indicate that the patch is already old and the pallid centre is always anæsthetic."[16]

The common opinion is that the anæsthesia of the maculæ, when it occurs, is due to the local action of the bacilli or their toxins on the nerve terminations or fibrils, while that of the distal parts of the extremities is due to changes in the nerve trunks. Looking at the charts depicting the areas of anæsthesia one finds it difficult to understand this: were the nerve trunks the seat of the mischief in this latter case, one would expect the anæsthesia to be more irregularly outlined, to extend up the limb to different extents in the areas supplied by different sensory nerves and not to terminate in the regular way it does often in an almost circular line round the limb. The distribution of the anæsthesia of the limbs seen in the Rai Bareli cases is more easily understood on the supposition that the nerve terminations or terminal fibrils in the limbs as in the maculæ are the parts of the nervous system affected.[17]

The symptoms peculiar to nodular leprosy varied little from those given in the text-books. It is worthy of note, however, that in addition to the sites usually affected as described therein nodules were found in two cases on the glans penis, once on the palm, and once on the sole. All these were confirmed by the presence of abundant bacilli lepræ in smears from and in sections of the nodules made after their excision. In two cases unequivocal massive lepromata were found—i.e., infiltration in plaques instead of in discrete nodules. The parts affected were in one case the hips, lower limbs, and scrotum; in the other one upper arm and the back of both elbows. The nose, eyes, and mouth were examined in a routine way in all lepers. In the nose ulcers were found in 18 cases, only one of which was a maculo-anæsthetic leper. Smears from these ulcers showed leprosy bacilli in 11 cases, one of which was the maculo-anæsthetic. In the mouth in three cases nodules were found on the hard palate and in one case on the soft palate. Two prisoners were found with ulcers of the palate of leprous origin. In only one leper was the disease found affecting the eye. A nodule formed in the lower quadrant of one cornea, penetrated to the iris, and set up iritis. The prisoner was released at this stage. Five prisoners were noted to have affections of the larynx. Only one example occurred in the jail of nodules

[12] Ibid., p. 15.
[13] Vide Leprosy, by G. Thin, M.D., p. 115.
[14] Leprosy, by Hansen and Looft, translated by N. Walker, p. 144.
[15] Ibid., p. 3.
[16] Hansen and Looft, translated by Walker, p. 55.
[17] By anæsthesia is meant loss of sensibility to light touch as tested by cotton-wool.

breaking down and ulcerating. This man's face and body while this process was going on resembled those of a person suffering from small-pox. He was released after the condition had passed its worst and with good general health.

PART III.—TREATMENT.

In the jail all lepers were brought under excellent hygienic conditions. Good food, suitable clothing, enforced cleanliness, abundance of fresh air, and appropriate light labour were the lot of all. Sores and ulcers were kept clean and any little surgical measure deemed necessary was done. In addition to these general measures medicinal treatment of some kind was practised with most of the prisoners. The medicines tried were chaulmoogra oil, gurjun oil, salol, and salicylic acid ointment, each in selected groups. The conclusion come to was that none of these remedies was followed by any special benefit, and towards the end of the period of observation their use was abandoned for a simple symptomatic line of treatment. In December, 1906, and January, 1907, a trial was made of subcutaneous injections of 30 per cent. emulsions of iodoform in olive oil by which a German colonial officer, Dr. Diesing, was reported to have had success. Injections of four cubic centimetres of this emulsion were given to six selected cases. After 12 injections the practice was suspended to await results. No influence on the disease was detected up to the end of February, 1907. During the period of observation nine lepers died and 94 were released—22 with the symptoms alleviated, 21 with the symptoms more pronounced, and 51 practically in the same condition as on admission. In two of these which improved no symptoms could be found of the disease at all at release. In the majority of the cases it was recorded that the general health had improved during the stay in jail, this being not infrequently noted even in cases in which the special symptoms of leprosy seemed to have increased. Of the 94 released, 68 had gained in weight (average gain 9·46 pounds), 30 had lost weight (average loss 6·43 pounds), and six showed no change. The average duration of confinement of the 94 was 12·41 months. Of the nine cases who died only one was a maculo-anæsthetic leper. He was stated to have had the disease for 16½ years and had been in the leper jail for 13½ years. The others were mixed cases. The cause of death in all was some intercurrent affection—diarrhœa in six, tubercle of lungs in two, and gangrene in one. In all the leprosy was of many years' duration[18] and the prisoner was markedly debilitated by it.

AORTIC ANEURYSMS; SUDDEN DEATHS; THE CAPACITY OF THE PERICARDIUM.

BY HERBERT A. SMITH, M.D. DURH., M.R.C.S. ENG., L.R.C.P. EDIN.

"I say that aneurysm is cured by rest and not by the surgeon!"—*John Hilton.*

THE mystery of sudden death commands interest, clinical, physiological, and forensic, and the last especially—the chemical, toxic, and traumatic causes—have a wide range of uncertainty, for the objective appearances of death do not always correspond with the classical modes thereof as given by Bichât, and with pathological causes there is often doubt. It is said by Virchow[1] "to be almost absolutely certain that the two most important kinds of death, asphyxia and paralysis, occur from overfilling of the right and left ventricles of the heart," yet in the following case both these cavities were found empty. Vivian Poore[2] says that sudden death obtains (1) by failure of blood, as in hæmorrhage, rupture of aneurysms, &c.; (2) failure of heart action through systemic, valvular, or thrombotic causes; and (3) failure of respiration through central or peripheral causes, that when the lungs cease first you get cyanosis and engorgement of the right heart and systemic veins, and when the circulation stops first you get pallor from a nearly empty left heart.

CASE 1.—On March 5th, 1908, I was summoned to a man in a fit. On arrival two minutes later he was dead; he had been pruning roses and suddenly feeling faint and giddy he fell to the ground. I found marked cyanosis, blueness of the lips and cheeks, and a congested venous state of the neck. The mouth was open, showing a protruding tongue, a condition suggesting some pressure on the venous return. Did the lungs cease before the heart? On making a necropsy (before an inquest) I found, after removing the front of the sternum and ribs to the subclavicular line, a distended viscus ready to burst; it was the pericardium pressing the diaphragm downwards and occupying a wide pulmonary area; on opening it 14 ounces of serum were baled out and then five ounces of soft black blood clot. The chambers of the heart, save a long thin clot in the right auricle, were empty and the valves were intact and competent, but an aneurysm of the ascending aorta (saccular) of the size of a walnut was found, the seat of rupture having a stellate appearance. The inner coat was stretched and torn and the other coats were soft, fatty, and friable. The intima right down to the thoracic aorta was riddled with areas of atheroma and calcareous plates and granules. There was no illness, no complaint, no lapse of work; yet the disease proceeded without let in a man of fine physique. It is said by Broadbent that "the favourite site of an aneurysm to rupture is through the unsupported sinuses of Valsalva," the intrapericardial portion of the ascending aorta, and that sudden death may occur without previous physical signs.[3] The lining of the pericardium common to the aorta and pulmonary artery in a single tube favours early rupture of the aneurysmal sac, yet with the atheromatous changes, the fact that no symptom is felt, no sign complained of, is noteworthy.

Some years ago a woman was admitted into the Middlesex Hospital for obscure pains in the chest and stabbing sensations, and gradually advancing pallor, faintness, and giddiness led to death. A post-mortem examination was made, and as the heart was taken out the pathologist pricked his finger by a needle which had traversed the œsophagus, trachea, pericardium, and the ascending aorta through a sinus of Valsalva, and the point of which was in the pericardium. Some 10 ounces of blood were found; trickling of blood alongside the needle had led to rupture and fatal flow.

Men live on the brink of a precipice. The cone of the fatal clot, the flimsy film, the flaw within the tube, and the fragile vessel or sac gives way without a signal.

CASE 2.—A city merchant whose life had been one of constant activity and excitement was under my care for aneurysm of the arch of the aorta for 11 years. During this time he presented most of the cardinal features of the disease and the saccular tumour grew to the size of a pear, eroding the sternum and extending the skin into a cone, yet strengthened by newly organised tissue. He kept his bed at first on and off for three months at a time for two years and took as much as two pounds of iodide of potassium with little fluid. He afterwards went daily to business, smoked two or three cigars, and enjoyed life. At 58 years of age he went for a winter cruise in the Mediterranean and coming home died somewhat suddenly from acute double pneumonia. The aneurysm had compressed behind the pulmonary artery and bronchial tubes and laterally had led to pulmonary condensation and absorption, thus favouring pneumonia.

CASE 3.—A few years ago I was summoned in the early morning to see a man, aged 56 years, who had fallen to the floor while entering a bath. I found him dead. There was marked pallor of the upper, and cyanosis of the lower, half of the face. A post-mortem examination elicited a thoracic aneurysm of the size of a tennis-ball which had absorbed a corresponding portion of lung and had ruptured into the posterior left mediastinum; it was saccular, occupying the costo-vertebral trough over the eighth and ninth ribs. The arterial opening was small and the site was favourable for support and for that side-flow or oblique eddy that favours coagulation. The right ventricle contained much blood clot. The sac wall was brittle, laminated, and lined with old and organising clot. Three months before Dr. T. T. Whipham had seen the case for backache, dyspnœa, and pleurodynia and had merely suspected an aneurysm, which had grown with great rapidity.

The early diagnosis of aneurysm by the x rays becomes important. Dr. David Arthur tells me that by its means aneurysms can be diagnosed from the merest budding to the point of rupture and that the time of giving way can be predicted with nicety outside the body. Moreover, by Hotznecht's process—the anterior right oblique position—the smallest aneurysm can be seen and shadowed, but the rate of

[18] Duration of disease not known in one case. Average duration of remaining eight cases was 10·94 years.

[1] Virchow: Post-mortems, p. 35.

[2] G. V. Poore: Medical Jurisprudence, p. 50.

[3] Broadbent: Heart Disease, p. 448.

growth hereby has yet to be determined. In a skiagram taken by Dr. D. Arthur but not published of Dr. Seymour Taylor's case[4] the space intervening between the heart and pericardium in the advance and retreat of the heart's action is clearly seen.

The normal amount of pericardial serum is that of lubrication. The pathological stretch of capacity of the pericardium, according to G. A. Gibson,[5] has reached eight pints of serum (cardiac). According to Jackson Clarke,[6] sufficient pus has been found in this viscus to mask the whole anterior pulmonary area of resonance, yet 18 ounces of blood sufficed in my case to render the pericardium taut. Such is the elasticity and capacity of the pericardium.

In spite of Dr. Taylor's strictures, my treatment of aneurysm medically would be rest (relaxed periodically), limited fluid, as much iodide of potassium and lactate of calcium as the patient could bear, and a prolonged stay at Woodhall, Sandrock, or Malvern—calm retreats whose spa waters are more or less rich in iodine, bromine, alum, and iron.

West Acton, W.

THE PRECIPITIN REACTION IN HYDATID DISEASE.

BY D. A. WELSH, M.A., B.Sc., M.D. EDIN.,
PROFESSOR OF PATHOLOGY IN THE UNIVERSITY OF SYDNEY, NEW SOUTH WALES;
AND
H. G. CHAPMAN, M.D., B.S. MELB.,
DEMONSTRATOR IN PHYSIOLOGY IN THE UNIVERSITY OF SYDNEY, NEW SOUTH WALES.

IN July, 1907, Fleig and Lisbonne[1] announced that they had succeeded in demonstrating the existence of a specific precipitin in the blood serum of an individual affected with a hydatid cyst and in the serum of animals immunised with hydatid products. They also emphasised the diagnostic significance of the reaction. Previous work[2] by Ghedini, by Joest, and by Gherardini had yielded contradictory results. With the more abundant material at our disposal we have been able to corroborate and to supplement the main observations of Fleig and Lisbonne in regard to hydatid invasions in the human subject. We have found that when a sufficiency of blood serum is mixed with a suitable hydatid fluid and the mixture allowed to stand for 18–20 hours at the room temperature, a well-marked precipitate never fails to appear if the serum be taken from a patient infected with hydatids (nine cases), and that precipitation does not occur when the serum is taken from persons not so infected (four suspected cases and five healthy controls). In the four suspected cases examined by us a negative reaction was obtained, and at operation in each case the absence of hydatid invasion was revealed. These results are so consistent, though as yet few in number, that they encourage us in the belief that in the precipitin test for hydatid invasion we have a reliable means of diagnosis. We find, however, that certain conditions are essential to the satisfactory performance of the test.

In regard to the serum (antiserum) developed in a hydatid patient, our experience has been that, with few exceptions, it is characterised by a low precipitable content. Hence, as noted by Fleig and Lisbonne, about 12 drops of the patient's serum are usually required to yield a satisfactory amount of deposit. In a previous paper[3] dealing with precipitin antisera prepared in the rabbit by injections of alien blood serum or of egg-white, we noted that two drops (0·1 cubic centimetre) of the antiserum were usually sufficient to yield a well-marked precipitate. We were also led to the conclusions that the precipitate was derived mainly from the antiserum and that different antisera might differ greatly in their precipitable content.

Fleig and Lisbonne observed that the anti-substances in the serum of a hydatid patient may gradually disappear after operation. That this disappearance of the precipitin is not necessarily associated with removal of all the cysts is shown by one of our cases. In a man, aged 42 years, with multiple hydatid cysts of the liver (not all of which could be removed at operation) we found a well-marked reaction before operation, but at the end of the sixth week and again at the end of the seventh week after operation the serum yielded only a minute trace of deposit. The patient died in the eighth week after operation, having become rapidly weaker and more emaciated, and it may be that in these circumstances his capacity for reaction was failing. On the other hand, a girl, 14 years old, with multiple hydatids of the peritoneum following a ruptured hydatid of the liver gave a well-marked reaction eight weeks after operation. She was well nourished and was leaving the hospital apparently cured. The indication, however, was that she was still infected with hydatids and that the tissues were reacting to their presence.

In regard to the hydatid fluid, our practice has been to pass it through a Chamberland filter. We have obtained more abundant precipitates with one cubic centimetre hydatid fluid than with two cubic centimetres (as recommended by Fleig and Lisbonne), probably because the small amount of the homologous protein contained in the hydatid fluid is sufficient to produce a marked precipitation in the antiserum, while the interaction is not hampered by over-much dilution. This also is in harmony with our previous work on serum and egg-white precipitins.

In the course of our experiments with hydatid precipitins we encountered one hydatid fluid which gave no precipitate, in addiments of two cubic centimetres, either with the serum of the patient from whom it was obtained, or with the serum of other hydatid patients. When, however, these tubes, after standing 48 hours without showing any precipitate, each received the further addition of one cubic centimetre of clear fluid from another hydatid invasion, distinct precipitates were obtained. It was certainly anomalous to find that the first hydatid fluid failed to precipitate the serum of the patient from whom it was obtained, while the serum of that patient reacted strongly with the hydatid fluid obtained from a different patient. We may note that each of the hydatid fluids above referred to contained, approximately, the same amount of albumin (about 0·025 per cent.).

The fact that not all hydatid cysts contain fluid capable of interacting to give a precipitate with the serum of the patient may be an explanation of the negative results obtained by earlier workers. What we would emphasise is that hydatid fluids may vary greatly in their capacity for interaction with the serum of a hydatid patient, but that a hydatid fluid which reacts strongly with the serum of the patient from whom it was obtained reacts also strongly with the serum of other hydatid patients. These facts are of importance in the selection of a stock of hydatid fluid in the diagnostic applications of the test.

Summary of cases of hydatid invasion, all of which gave a marked precipitate reaction when tested before operation.—1. Male, 35 years. Three small hydatid cysts with clear contents in peritoneum. Hydatid of liver removed eight years ago. 2. Male, 42 years. Multiple hydatid cysts of liver, some of which were full of clear fluid, others shrunken and inspissated. Not all cysts removed, yet reaction very feeble six and seven weeks after operation. Death in eighth week. 3. Male, eight years. Large single cyst of liver with clear contents. 4. Female, 14 years. Multiple hydatids of peritoneum with clear contents, following ruptured hydatid of liver. Marked reaction eight weeks after operation. 5. Male, 13 years. Single hydatid cyst of liver with clear fluid contents. 6. Female, 17 years. Multiple cysts of peritoneum with clear fluid contents, dense matted adhesions. 7. Male, 50 years. Suppurating hydatid cyst in muscles of thigh, well-marked reaction three weeks after operation. 8. Male, 48 years. Large hydatid cyst of liver with slightly turbid contents. 9. Male, 23 years. Large hydatid cyst of liver with slightly turbid contents.

Conclusions.—1. The interaction between selected hydatid fluids and a sufficiency of the serum of a patient affected with hydatid disease has, in our experience of nine cases, never failed to give a positive precipitin reaction when tested before operation. 2. Not all hydatid fluids are capable of eliciting this reaction, and their failure is not associated with any noticeable diminution of their protein content. 3. Persistence of a marked reaction some weeks after operation probably indicates the continued presence of the parasite, but the disappearance of the reaction does not necessarily indicate complete removal of the cysts. 4. A positive reaction is independent of the site of the hydatid cyst (hepatic, peritoneal, muscular) and independent also of the nature of its contents (clear, turbid, or purulent).

[4] THE LANCET, March 7th, 1908, p. 702.
[5] G. A. Gibson: Textbook of Medicine, vol. ii., p. 52.
[6] Jackson Clarke: Surgical Anatomy, p. 303.
[1] Comptes Rendus de la Société de Biologie, tome lxii., No. 23, 1907, p. 1198.
[2] Published in 1906 and quoted by Fleig and Lisbonne, loc. cit.
[3] Welsh and Chapman: Proceedings of the Royal Society, B. vol. lxxviii., p. 297, 1906.

THE OPERATIVE SURGERY OF LABYRINTHITIS.[1]

BY C. ERNEST WEST, F.R.C.S. ENG.,
ASSISTANT AURAL SURGEON, ST. BARTHOLOMEW'S HOSPITAL;
AND
SYDNEY SCOTT, M.S. LOND., F.R.C.S. ENG.,
CHIEF ASSISTANT, AURAL DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL, AND AURAL SURGEON, EVELINA HOSPITAL FOR SICK CHILDREN.

THE beginning of deliberate and planned operations on the auditory labyrinth for the relief of infective processes within it may be traced to the publication by Jansen of his classical cases at the Moscow Medical Congress in 1897. In 1902 much addition to our knowledge of the subject was made by Hinsberg, and following this Dr. W. Milligan and Mr. A. L. Whitehead drew attention to the subject in this country. Since this date the literature has been enriched by numerous authors and many isolated cases of the surgical treatment of labyrinthine disease have been published. We have ourselves been keenly interested in the subject for the past four years and have at various times separately published accounts of individual cases. Feeling that of late a recognition of the importance of the subject was increasing we have embodied in this paper our personal experience of 30 cases and a result of a study of it.

Surgical anatomy of the labyrinth.—An accurate knowledge of the structure and relations of the labyrinth is essential to its successful surgery. Upon such knowledge depend the recognition of the morbid processes which affect it and the ability to interpret the clinical phenomena peculiar to its diseases. Moreover, by anatomical structure and relationship the occurrence of fatal complications associated with labyrinthitis can be explained. In this summary we shall merely describe some of the main anatomical features of the labyrinth and would refer those especially interested to the more detailed description of the surgical anatomy of the labyrinth in our original paper.[2] It is convenient surgically to regard the human labyrinth as consisting of two main parts, each fulfilling through the membranous structures it contains the functions of a special sense organ —the cochlea, the essential organ of hearing, the vestibule, and the semicircular canals which contain the end-organs of static sensation. The labyrinth as a whole lies within the petrous portion of the temporal bone and is thus situated on the inner side of the middle ear, with the temporo-sphenoidal lobe of the cerebrum and the meninges of the middle cranial fossa immediately above and the cerebellum, with the meninges of the posterior cranial fossa, immediately behind. The internal carotid artery lies directly in front of, and below, the cochlea. The bulb of the internal jugular vein lies directly below the vestibule and the posterior semicircular canal. On the inner side of the labyrinth lies the fundus of the internal auditory meatus, containing the seventh and eighth cranial nerves, with their meningeal prolongations. The seventh or facial nerve also crosses the labyrinth, lying first above and then to its outer side.

The vestibule is an ovoidal chamber communicating with the cochlea in front and with the semicircular canals which lie behind. The measurements of the vestibule are: antero-posteriorly about 6 millimetres, vertically 4 to 5 millimetres, and transversely 3 millimetres. In its roof, posterior wall, and floor are the openings for the semicircular canals, while externally and in front the vestibule leads downwards and forwards into the first turn of the cochlea. The outer wall of the vestibule corresponds with the following portions of the inner wall of the middle ear, in order from above downwards: the tympanic part of the aqueduct of Fallopius containing the facial nerve, the pelvis ovalis lodging the stapes, and the upper part of the fossula rotunda. This fossula is sharply separated from the pelvis ovalis by a stout ridge of bone prolonged backwards from the promonitory. Behind the fossula rotunda is a recess, the sinus tympanicus, passing upwards and backwards to the inner side of the Fallopian aqueduct. This sinus is often separated by quite thin bone from the floor of the vestibule and from the ampulla of the posterior semicircular canal, a point of clinical importance. The inner wall of the vestibule is separated anteriorly from the fundus of the internal auditory meatus and from the arachnoid sheath of the seventh and eighth nerves by excessively thin bone pierced by numerous nerve filaments. The importance of this intimate relation of the vestibule to the intracranial cavity and to the meninges of the posterior cranial fossa and base of the brain we cannot too strongly emphasize. The cochlea consists of a spirally coiled canal which takes the form of a depressed cone. The first half-turn of the cochlea leads from the vestibule and forms the promontory on the inner wall of the tympanum. The body of the cochlea lies further forwards and inwards, above the internal carotid artery, and based upon the fundus of the internal auditory meatus. The three semicircular canals open into the vestibule. They lie in planes which are at right angles to each other, the external canal being approximately horizontal, while the superior and posterior canals are approximately vertical. We have satisfied ourselves that the planes of the semicircular canals on opposite sides of the head in no instance exactly coincide. The proximity of the ampullæ of the three canals to the middle ear is important, the superior and external ampullæ lying close to the inner wall of the attic and aditus, while that of the posterior canal is close to the sinus tympanicus.

Guides to the vestibule.—One of the most important guides to the vestibule is the outer crus of the external semicircular canal, a part which is liable to invasion by disease. This canal forms a conspicuous eminence on the inner wall of the aditus and antrum; it should invariably be carefully inspected. Its ampulla lies in front of the eminence and immediately above the facial nerve. On following an opening in the external canal forwards and slightly upwards the ampulla is easily found, close to its opening into the vestibule. A second guide to the vestibule is the pelvis ovalis below the Fallopian aqueduct. This is generally only imperfectly visible from the mastoid aspect during the radical operation on the middle ear, but can be seen when looked for along the external auditory meatus.

The course of the facial nerve in relation to the labyrinth and middle-ear.—The facial nerve leaves the fundus of the internal auditory meatus through its upper and anterior quadrant; its subsequent course may be divided into three parts. The first passes outwards and slightly forwards and measures one-eighth of an inch. It terminates in a chamber lodging the geniculate ganglion. The second part passes from this ganglion backwards and downwards at right angles to the first. Its course is straight and is inclined about 15° to the horizontal: it measures nearly half an inch. Of this the middle quarter inch of the aqueduct is visible in the tympanum, exposed on its outer and lower surfaces. The lower wall of this part of the canal is often incomplete. Below it is the pelvis ovalis. Above are situated the ampullæ of the external and superior semicircular canals; to its inner side is the vestibule. The last eighth of an inch of the second part of the facial nerve is buried in the posterior tympanic wall and lies above and behind the flask-shaped chamber of the stapedius muscle. The third part of the nerve is about half an inch long and passes downwards and a little outwards and backwards at an angle of 120° with the second part, emerging at the base of the skull, through the stylo-mastoid foramen. The third part of the nerve is in relation with the deepest part of the posterior meatal wall.

Morbid anatomy and pathology —The inflammatory processes within the labyrinth of which we have had experience originated in all cases within the middle ear. The entrance of infection was nearly always by definite tracts which could be recognised during operation, in other words, by perforation of some part of the outer labyrinthine wall. The most frequent and important site of perforation was the external semicircular canal as it lies in the inner wall of the aditus. Here entrance took place 14 times out of a total of 30 cases. Various parts of the inner tympanic wall were perforated less frequently, a defect of the footplate of the stapes being found in six cases, of the promontory in five, while in one perforation took place into the vestibule through the fossula rotunda. In three cases of undoubted labyrinthitis we were unable to discover the point of entrance. In almost all of our cases the antecedent otitis media has been chronic at the period of observation and there is no doubt that chronic suppurations bring about the majority of infections of the labyrinth. It is possible, however, that in some cases invasion of the labyrinth may have taken place during the acute stage of the otitis antecedent to the period of observation. Cholesteatoma was associated with perforations of

[1] Based upon a paper read before the Otological Section of the Royal Society of Medicine on March 7th, 1908.
[2] The original paper is published in full, accompanied by a bibliography, in the April number of the Proceedings of the Royal Society of Medicine, with illustrations.

the labyrinthine capsule in ten cases, accounting for seven out of 14 of the cases of fistula of the external semicircular canal, and twice leading to destruction of the footplate of the stapes. Twice the labyrinth was involved through definite regions in the spread of tuberculous disease.

Opportunities for the examination of the infective organisms of labyrinthitis have occurred in only a few cases. One of us cultivated streptococci from the vestibule in a case of acute suppurative labyrinthitis and in another we obtained a similar organism from the fluid in the internal auditory meatus post mortem. It is probable that in this, as in the other major complications of suppurative otitis media, the streptococcus pyogenes is the most frequent and important agent. The labyrinthitis set up may vary widely in intensity and extent; it may be of an acute suppurative type or may be chronic and progressive, leading to the formation of granulation tissue within the labyrinth. Acute suppurative labyrinthitis is probably always diffuse, but chronic granulating labyrinthitis may have any extent from that of a local invasion in a semicircular canal to the involvement of every part of the chambers. In the early stages of acute labyrinthitis the membranous structures are intensely injected, the membranous canal instead of being invisible appearing as a brilliant red thread when the bony canal is opened. The perilymph in the vestibule is turbid and blood-stained and the utricle and saccule cannot be recognised. Blood-stained and turbid fluid also occupies the scalæ of the cochlea. In histological sections of the cochlea in a case of fatal acute streptococcal labyrinthitis one of us found infiltration and proliferation of round cells completely obscuring the finer features of the membranous cochlea.

We have been unable to find any traces of the normal structures in the granulation tissue from the vestibule in cases of chronic labyrinthitis. The osseous labyrinth is also involved in labyrinthitis, to a greater or less extent, showing local caries or necrosis according to the acuteness of the inflammation of the dense labyrinthine capsule. Such necrosis may include virtually the whole of the labyrinth, but it seems the rule for the cochlea on the one hand and the vestibule and canals on the other to form separate sequestra rather than to be exfoliated in continuity. Vestibular sequestra generally include some part of the wall of the internal auditory meatus. Where the inflammation has been less severe or has been arrested by drainage the labyrinthine cavities may become occupied after resolution by a fibrous tissue mass which may subsequently ossify. The cochlea appears frequently to escape either wholly or in its apical portion when the vestibule is the site of a granulating inflammation. These various conditions were observed during operation, acute diffuse labyrinthitis being recognised five times, in three of which pus escaped when the vestibule was opened, while granulation tissue was removed from the vestibule in four cases of chronic labyrinthitis. We saw three cases of local granulations within the external canal in which no labyrinthine symptoms were present, and the vestibule was not explored. There were six cases of sequestration, two involving both cochlea and vestibule with canals, two of the cochlea only, and two of the vestibule and canals only.

The inflammatory process shows a marked tendency to spread from the labyrinth along the perineural arachnoid sheaths of the nerves in the internal auditory meatus. The effusion here may be plastic, sero-purulent, or serous. In the latter case the sheath is distended and may lead to a local area of marked distension of the subarachnoid space, between the lateral aspects of the pons and cerebellum, limited by delicate marginal adhesions; or there may be associated a general serous meningitis. In some cases infection seems to take hold upon the cerebellum with the production of an abscess, sometimes interlamellar, while clearing up within the internal meatus. The fatalities from labyrinthitis are due to this intracranial spread of infection, except in such rare cases as one of our series which succumbed to acute streptococcal septicæmia. Two cases of our series died from cerebellar abscess, one without operation; one from consecutive meningitis after an inadequate operation on the labyrinth, and one from acute internal hydrocephalus without operation on the labyrinth. The last form of fatal issue appears to be directly consequent on the localised serous meningitis described above. We have not met with abscess of the saccus endolymphaticus nor with isolated erosion of the superior canal, conditions which have been recorded by other observers; the anatomical grounds for such conditions are sufficiently obvious.

Symptoms and special tests.—It is a remarkable thing that many cases of gross labyrinthine disease present no obvious symptoms of the condition. Of our patients, nine had no symptomatic features calling attention to the labyrinth, among them being four cases of fistula of the external canal and two of sequestration of large portions of the labyrinth, while in another tuberculous disease had invaded the vestibule. Where symptoms are present the most frequent and characteristic is vertigo and of the 26 patients operated upon no less than 16 were giddy. We have reserved the term vertigo for a sense of rotation in a definite direction, either of external objects or of the patient. The plane of apparent rotation is most commonly horizontal, 11 of the 16 being of this class. More rarely a vertical or oblique plane is met with. In four cases there was a marked tendency to fall towards the affected side. Vertigo may be short lived and may disappear permanently after a few days, or may persist for many months, either constant with exacerbations, or intermittent. It is interesting physiologically that an isolated lesion of the cochlea was never associated with vertigo. Vomiting may be due to labyrinthine disease or to some concomitant intracranial lesion. Its association with vertigo produces a clinical picture which in combination with middle-ear suppuration is almost certainly diagnostic of labyrinthitis. 14 of our cases vomited at some period of the disease, but in five of them intracranial complications may have been productive of this symptom. Cochlear symptoms are, on the whole, less strongly marked: tinnitus was only complained of by three patients, though all were markedly deaf. Local deep-seated pain has been prominent in acute labyrinthitis. Headache is common, but a severe type is not. Constant and severe headache may be caused by the presence of a sequestrum. General disturbance with raised temperature and frequent pulse has only occurred in acute labyrinthitis. In spite of the frequency of vertigo we have not met with spontaneous nystagmus.[3]

While there may be a complete absence of symptoms under ordinary conditions it is probable that all cases of labyrinthine disease may be made to show symptoms in special circumstances and we have found the following special tests of such value in eliciting them that we have made them a part of our routine investigation. 1. Rombergism. The patient shows abnormal instability and this may be especially marked on one side when the attempt is made to stand on a single foot with the eyes closed. As a rule, swaying or falling is toward the affected side. 2. Gait is often rather characteristic, even with the eyes open, in cases of vertigo. The feet are planted unnaturally widely and in walking along a straight line there is a tendency to deviate to the affected side, which may be visibly corrected by voluntary readjustments. There may be marked ataxic gait. 3. Nystagmus may always normally be evoked by rotation and possesses a quite definite type in the normal subject. We have found abnormalities or absence of nystagmus after rotation in cases of known labyrinthine lesion and consider that such reactions are strong evidence of the presence of some disturbed condition of the labyrinth.

Operative interference is called for in all cases where there is good evidence of infective disease, resting either on the presence of symptoms and the response to special tests or on operative discovery in the course of the radical mastoid operation. As the cases without symptoms share all the risks of the condition a most careful search should always be made over the whole of the area of the outer labyrinthine wall. We consider that all cases in which the vestibule or the ampullary ends of the canals are involved should, for the safety of the patient, be thoroughly opened up and drained. Cases of fistula or caries of the canal behind the ampulla presenting no special symptoms should be locally curetted and given their chance of healing. It is well to remember that a fistula of a canal may lead into the cavity which incloses a deep-seated sequestrum. When the promontory is perforated the area of disease should be completely removed and the vestibule should at the same time be opened and drained.

Operative surgery with illustrative cases.—The main conditions which call for surgical aid in the form of deliberate operation on the labyrinth appear to us to be the incapacity produced by vertigo and the danger of infective meningitis. In operations on the middle ear for the relief of chronic suppurative otitis media we invariably note the condition of the outer wall of the labyrinth—that is, of the eminence of

[3] Since this was written we have met with spontaneous nystagmus in a case of acute labyrinthitis.

the external semicircular canal and the inner tympanic wall, directing particular attention to the pelvis ovalis and to the fossula rotunda. It is scarcely necessary to state that, for the conduct of such examinations, the cavity must be well illuminated and free from blood. In deliberate operations on the labyrinth the preliminary radical mastoid operation is performed and it is essential that as much room as possible should be made available by the free removal of the boundaries of the mastoid operation cavity and of the posterior meatal wall. It has been found necessary in some cases also to remove the anterior wall and floor of the bony external meatus. We shall describe the operations which we have carried out for labyrinthitis, quoting certain cases in illustration and referring to the others under the numerical headings of the original paper. The order of cases is categorical not chronological.

Superior vestibulotomy.—To open the vestibule from above the outer limb of the external semicircular canal is followed forwards above the facial aqueduct until the ampulla is opened. When this is effected the vestibular roof is completely removed by extending the operation forwards and upwards into the ampulla of the superior semicircular canal and the lower part of its ascending limb and destroying the small mass of compact bone which lies between the proximal parts of the two canals. Though a simple and short procedure we have found this an inadequate operation to ensure drainage of the vestibule if carried no further. After removing the roof of the vestibule the external and superior ampullary nerves can be easily destroyed with a small sharp curette as they run in the anterior and outer wall of the vestibule at the level of the upper margin of the facial aqueduct. We have discarded simple superior vestibulotomy after performing it twice only (Cases 1 and 2) and losing one patient through the inefficient drainage afforded by the simple superior opening. We consider such cases require double vestibulotomy (*vide infra*).

CASE 1.—The patient was a male, aged 12 years. Cholesteatoma; erosion of external canal and roof of the vestibule (left side). Symptoms: none referable to labyrinth; recent acute mastoiditis. Operation: radical. Fistula of external canal leading into vestibule; the vestibule was curetted but not opened below. There was no escape of cerebro-spinal fluid. Result: meningitis developing on the third day; death occurred on the fourteenth day.

The second case in which we performed this operation was complicated by cerebellar abscess to which death was due. Hinsberg described one fatal case similar to Case 1.

Superior vestibulotomy with complete removal of the canals.—We have performed this operation once only, in a case of post-suppurative vertigo (Case 3). It is a tedious undertaking and we now know that the symptoms can be relieved by an operation on the vestibule without removal of the canals.

Inferior vestibulotomy.—To perform this operation the vestibule is opened below the facial nerve by removal of its outer wall. This opening, which should be as complete as possible, is attained by removing the stapes if still present and cutting away the ridge of bone between the fenestra ovalis and the fossula rotunda. In this way the outer wall and part of the floor of the vestibule are removed, while it is not anatomically necessary to interfere with the fenestra rotunda, or to remove the membrana secundaria. The posterior ampullary nerve may be destroyed by introducing a small curved curette and cutting against the inner and posterior part of the floor of the vestibule. Case 4 of our series was an example of simple inferior vestibulotomy performed for tuberculous invasion of the vestibule through the inner tympanic wall.

Inferior vestibulotomy with partial or complete removal of the cochlea.—When the first half-turn of the cochlea is diseased it is easily opened by working forwards from the vestibule. The second turn of the cochlea lies deeper and higher and is difficult of access, except in infants, unless the bony meatus is removed. This should be done as far as the annulus tympanicus anteriorly and below, the periosteum of the tympanic plate being pushed forwards and held aside with a narrow flat retractor. In following up disease in the cochlea the position of the internal carotid artery must be borne in mind lying below, in front, and somewhat internally. Inferior vestibulotomy was performed in five cases of our series (Cases 4, 5, 6, 7, and 8).

CASE 8.—The patient was a female, aged 13 years, who was admitted with chronic suppurative otitis media on the left side. Symptoms: headache, vomiting, and convulsions followed by unconsciousness. A radical mastoid operation was performed. Cholesteatoma was found in the antrum and tympanum; the promontory had been destroyed by disease. The vestibule was opened below the facial nerve and the first half turn of the cochlea was removed. Result: complete recovery.

We have come to regard inferior vestibulotomy as a good and adequate means of draining the vestibule in cases of infection. The removal of the first half turn of the cochlea is especially indicated when there is complete perosseous deafness on the affected side and when the promontory is the seat of disease.

Double vestibulotomy.—These two operations, superior and inferior vestibulotomy, may according to the indications be combined in various ways along with their extensions. Of these combinations the most important is that of superior with inferior vestibulotomy, constituting what we have called "double vestibulotomy." While our methods differ in some particulars, the operation is, we find, essentially that described by Dr. Milligan under the title of the "bridge operation." Cases 9, 10, 11, and 12 of our series were examples of double vestibulotomy.

CASE 9.—The patient was a male, aged 33 years. Though deaf in the left ear he had noticed no discharge whatever. There had been constant vertigo with paroxysms, accompanied by vomiting; he had several times fallen down as if in a fit. Objects appeared to move from left to right. The patient felt as if he were moving from right to left. In walking or standing with eyes closed he swayed to the left. Tuning fork on the vertex referred to the right ear. He had severe headache and pain in the ear. Otoscopic examination showed a large perforation with a dry cholesteatoma occupying the tympanum, on removal of which a small mass of granulations was seen in the pelvis ovalis. Operation: radical. There was no erosion of the external semicircular canal or the promontory. A fine probe entered the vestibule by its own weight, through the granulations in the fenestra ovalis, without encountering the slightest resistance. Double vestibulotomy was performed. Result: immediate disappearance of all symptoms. In this case facial paralysis gradually developed but afterwards completely recovered.

Cases 13, 14, and 15 were examples of double vestibulotomy combined with partial removal of the cochlea.

CASE 13.—The patient was a male, aged 38 years. There had been chronic suppurative otitis media (left), cholesteatoma, fistula of the external canal, and acute suppurative labyrinthitis. Symptoms ten weeks before operation: initial giddiness and repeated vomiting; horizontal vertigo, objects moving from left to right; had walked "as if drunk." At the time of operation he was only giddy on moving his head. He had an incoördinate swaying gait. There was no perception of sound on the left side. No nystagmus was present. The temperature and pulse were normal. Operation: radical. The external canal was opened and a defect of the roof of the vestibule was discovered. Pus was found in the vestibule. Double vestibulotomy was performed with partial removal of the cochlea. Result: loss of all vertigo and of feeling of insecurity; complete recovery. There was temporary facial paresis which rapidly recovered.

Extirpation of the labyrinth.—We reserve this term for the complete opening up of every portion of the bony chambers, i.e., double vestibulotomy with destruction of the whole length of each canal and of the cochlea. We have three cases of this description (Cases 16, 17, and 18). We think that this operation is rarely called for except in some cases of tuberculous disease—e.g., the following:—

CASE 16.—The patient was a female, aged 11 years. There was tuberculosis of the middle ear and petrous (left side); also fistula of external canal, chronic tuberculous labyrinthitis, and acute infective labyrinthitis. Operation: radical, with complete extirpation of the labyrinth. Result: rapid and complete healing.

Simple curettage of the carious portion of the labyrinthine capsule was carried out in six cases (Cases 19, 20, 21, 22, 23, and 24). None of these has been submitted subsequently to further operation on the labyrinth. In all the lumen of the external semicircular canal was found to be laid open by destructive disease, but was sealed by granulations. Labyrinthine symptoms were absent at the time of operation. A fistula in this situation may betoken a sequestration cavity, as will be seen from the following account.

Sequestrotomy.—The removal of sequestra of the labyrinth constituted the earliest recorded operations on the labyrinth. In nearly all cases in the literature the facial nerve had been

destroyed by the disease or was sacrificed in extracting the sequestrum. In our experience sequestra involve either the vestibular region or the cochlea, or both. While we have met with sequestra of both parts in the same labyrinth we have not met with a case in which the whole labyrinth formed a continuous massive sequestrum. Sequestra of the cochlea readily separate, consisting generally of the promontory and first half turn only. The converse is the case with sequestra of the vestibule and canals. These are deeply situated on the inner side of the facial nerve and involve the posterior wall of the internal auditory meatus. Such sequestra lie posteriorly against the dura mater covering the cerebellum. Sequestra of the vestibule and canals must be sought for, and should be sought for, when there is reasonable ground for suspecting their presence. They may be discovered by probing fistulous tracks and may be suspected where granulations are persistently re-formed. The sequestrum must be freely exposed before attempting to dislodge it. It may be necessary to cut away apparently intact portions of the labyrinth before the dead mass of bone is exposed, for the typical sequestrum does not include any part of the outer surface of the labyrinth. Three of our cases (Cases 25, 26, and 14) were examples of sequestrotomy, the sequestra being removed in each case by the posterior route—i.e., behind the facial nerve. Case 29 was an example of spontaneous exfoliation of the cochlea.

In addition to the 26 cases illustrating operative procedures on the labyrinth our knowledge of infective labyrinthitis was extended by other cases which were not operated upon. We quoted four of these cases (Cases 27, 28, 29, and 30) which appeared to present important clinical or pathological features bearing on the surgery of the labyrinth.

Results.—The cases submitted to operation on the labyrinth have healed with such absolute uniformity that we are led to suspect that the cause of some at least of the failures after the radical operation may be due to disease of the labyrinth. In every case in which vertigo was present it has been completely and permanently relieved. We have been fortunate in having no case of permanent facial paralysis. In only one case has there been a death due to the operation, this being after an inadequate operation, superior vestibulotomy. We lost two other cases through not operating on the labyrinth.

In conclusion we would assimilate the grounds for operation in labyrinthitis with those justifying the radical mastoid operation, and we believe that the time will come when no aural surgeon will be content to leave an infective cavity in such perilous proximity to the meninges.

THE NURSING DIFFICULTY IN FRANCE.

BY J. DARDEL, M.D. PARIS.

FOREIGNERS visiting the French hospitals have often heard the medical officers complain of the nursing staff. These complaints are well founded, but to what may we attribute them and how may they be remedied? In former times the French hospitals were served by nuns. In Paris, above all, many communities of *religieuses* undertook the nursing required by the Assistance Publique. It is a well-known fact that the Assistance Publique is entirely taken up with the care of the very poor, their nursing, &c., and visiting them in their own homes, for the French law makes the working of independent hospitals an affair of extreme difficulty.

Some 30 years ago the Municipal Council of Paris decided to secularise the hospitals. This was a very tedious and difficult undertaking, for it concerned no less than 15 of the larger hospitals. At the present moment an almost complete change has been effected and the towns and the provinces are also following suit in the example given by Paris. The new enactments of the French Government (1901) make it simply a question of time when, in the not very distant future, the nursing of the nuns will become simply a remembrance of the past. What object had Paris in view when she decided upon so sweeping a reform? The secularisation of the hospital staff is merely a political move.

Let us just touch upon the fundamental cause for this great reform. First and foremost, it was a question of dealing a blow at a party which had been defeated in the electoral struggles. It is worthy of remark that in the discussions of this period (1880-85) questions of a technical order occupy but little space. In fact, there was small cause of complaint against the nuns. They fulfilled the rôle of sisters and staff nurses. They were few in number, about two for each ward; they did all the waiting and were held responsible by the medical officers and the administration. Under them a non-religious staff rendered valuable assistance to the sick. This assistant staff was badly recruited, badly paid, and without training. The faults which they committed were often attributed to the nuns and cleverly brought home to them. The nuns were also accused of being too conservative. This is quite possible, for these *religieuses* were far from being perfect and there was much room for improvement in their training. But we must not overlook a date which was of great importance. The secularisation of the hospitals in France coincides with the period of antiseptic treatment. The idea of antiseptic and of septic treatment was taught as something new. It was a period of transition and the medical corps, as well as the nursing staff of the hospitals, had to adapt itself to new ideas. The old nuns, like all the others, had to go through a special technical training. The religious influence exercised on the conscience of the sick was of rare occurrence. On the other hand, the nuns knew how to suppress all licence and evil tendencies in the wards; they knew how to comfort the sick, by whom they were held in great esteem, as also by the doctors and medical students. No one ever dreamt of taking any liberties with the nuns.

When in the year 1880 the secularisation of the hospitals was decided upon, a thoroughly trained staff not being available, the administration accepted the first comers, whether competent or not, who nursed the sick—without even the most elementary ideas of the work—under the supervision of the nuns. This staff, somewhat domestic, was given almost the entire control of the wards. It was soon noted that they stood much in need of instruction. Schools for the nurses and staff were founded where, in certain cases, they had to be taught how to read. Those schools have now been open for 27 years and the results may be well guessed at. The technical instruction given there has borne fruit, but young girls with a sufficient moral education have not been attracted to them. They have turned out nurses capable of good work, their education has been improved, but the social position of the nurses has not changed. Now, so long as this is so really good nurses will be at a premium. What lowers the nursing profession in France is not the poor salary which they receive but the inferior rank of the nurses themselves, combined with the arduous work required of them and the little compensating comfort. The nurses in the Paris hospitals are badly paid when they enter. The salary gradually rises and the remuneration becomes equal to that obtained by nurses in England. This salary cannot be looked upon as a fortune but it is sufficient to permit of a woman living in comparative comfort if she is not encumbered with a family.

What kind of life is led by the nurses? They are lodged in dormitories which are both dirty and dismal, often mere garrets. Air is wanting and heating is unprovided. Furniture is very scanty, a wardrobe or a chest of drawers for little personal effects being all that is supplied—less comfort than in the room of a general servant. There is not a corner where the unfortunate woman can perform her most private toilette. The water-closets—common to both sexes—are very badly kept. There is no bathroom and no recreation or rest room. The dormitories are the same for those working during the day or the night, which means that in them perfect rest is almost impossible. The food is very bad and very badly served. To ask for better is out of the question. The director is an official of high importance and he, like the others, is but a tool of the great administrative machinery. It is necessary that there should be no trouble and no complaint. Neither can he ask for supplementary credit. In short, the nurse, no matter what her class is or her degree, is treated as a servant. All may be traced back to this mistake which is fundamental—the little consideration shown to the staff of nurses. The sick, the management, the medical officers, one and all are allowed regrettable familiarities with these poor women. The directors of the hospitals have always mixed up the classes, when a very clear line of division should be drawn between them. Young servants become nurses in the course of time by means of examination or by protection. This lamentable confusion prevents young girls who have had a certain amount of education from entering the hospitals.

This staff, so badly treated physically and morally be it

said, is forced to overwork itself. The wards often contain 40 or 50 beds. Night duty is relegated to perfect beginners, without experience and without ability, quite unaccustomed to hospital discipline. The natural result of these bad sanitary conditions in the hospitals of Paris is that the mortality from consumption is something appalling. The staff has only a very hazy idea as to its moral responsibilities. Tips are allowed as quite a matter of course. Be it said, however, that these women are at heart extremely good-natured. The evil lies in their social position. Tips do not humiliate them. Permission to marry is disastrous. The result is additional fatigue and overwork, for these women must use up their leisure moments in looking after their homes.

A serious omission in the organisation of the hospital staff is the absence of a woman at the head of affairs—the matron of the English hospitals. The result is that the promotion of a nurse is more often due to political influence than to personal merit. This, no doubt, is a matter of astonishment to the English, but as the municipal authorities are at the head of affairs in the French hospitals their great object is to stand well with their electors rather than to consider the rights of the nursing staff. To rightly judge it is above all expedient to take into consideration the ways of the country; thus, what would cause astonishment in England comes as a matter of course in France. This will account for the fact that in all the wards of the French hospitals men nurses work side by side with the women nurses. Do not let us overlook the fact that in the French hospitals men—nurses and employees of all sorts—are very numerous. Thus often the women nurses are married and are lodged with their husbands in the hospital.

These are the things which render it so difficult rightly and properly to recruit the hospital staff. Let us examine for a moment how this situation may best be remedied. Reform is possible, but there must be less centralisation, requiring everywhere an identical organisation. As to the Parisian hospitals one must not seek to reform them all at once. At first the reform should only be applied to *one single hospital*, for preference a new one, for it naturally follows that a staff recruited according to the new régime cannot have mixed with the existing one. The wisest thing to do would be to adopt the English system, which is the best—offer to young girls the means of acquiring a diploma which would enable them to earn their living and in return require of them their services in looking after the sick. The question of money is a secondary consideration. Above all, a moral reform is absolutely essential.

To turn out a good nurse we must take her from surroundings entirely different from the present one. We must try to get young girls who have received a certain amount of instruction and a fair education. The celibacy of the nurse must be insisted upon. This reform is absolutely imperative in spite of the prejudices existing in France on the subject. There must be a woman at the head, answering to the "matron," who shall be held responsible for the staff and shall be in direct touch with them. The nurse must undergo a practical training, given in the wards by other nurses who have themselves passed through the training that they are imparting to the beginners. The theoretical teaching of the doctors is but the complement and *not* the principal. In France, too, much importance is laid upon theoretical instruction to the exclusion of the practical. The duties of a nurse are quite different and quite separated from those of the domestic "ward maids." The number of men employed and, above all, lodged in the hospital should be greatly reduced. A certain number of male employees is, of course, necessary but only women should be called upon to nurse the sick. Sweeping changes must be made in the treatment of the nurses, both physically and morally. As in the English hospitals, they must no longer be treated as servants. They must have every consideration and, at the same time, gain an honest livelihood, both as to salary and as to food. Above all, they must have comfortable quarters, cheerful and bright, where, after their many hours of hard work, they may retire and feel at home.

Now, these reforms would not be very costly: it means changing the hospital into a training school, teaching the staff hospital and private nursing, and, in return for such teaching, having a call upon their services in nursing the sick, as is done in England. Their training once acquired, these nurses would gain their diplomas and be capable of looking after the wards and in the end become *fully qualified hospital nurses*. Quite recently the administration of the Assistance Publique tried to improve the condition of the nurses. First and foremost, they tried to increase the salary of the nurses, so that they might be able to raise themselves, put something by—in a word, accomplish a moral reform.

Many practical reforms have recently been attempted in the private hospitals of Paris with reference to the creation of a staff upon the new lines. It is to be hoped that this example may be followed by the large hospitals. These efforts should receive the encouragement of the doctors and of the public and have no sectarian interest; still less must they be anti-sectarian.

Aix-les-Bains.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

SPONTANEOUS RUPTURE OF THE HEART.

BY A. F. THEOBALDS, M.B., CH.B. EDIN.,
PATHOLOGIST AND ASSISTANT MEDICAL OFFICER, WEST RIDING ASYLUM, WAKEFIELD.

THE following case of a patient surviving spontaneous rupture of the heart for six days is worth recording. The patient was an inmate of the West Riding Asylum for 26 years and died in November last, aged 65 years. He suffered from chronic mania, and on the whole was fairly quiet and in good health. About a year ago he was found to have a mitral systolic murmur but it did not seem to inconvenience him. One Tuesday he was seized suddenly with what was thought to be an ordinary syncopal attack and was put to bed. He soon recovered, however, but on Sunday morning died suddenly while still in bed.

At the post-mortem examination the pericardium was found to be distended with fluid blood; the heart was enlarged and weighed 375 grammes. On the anterior surface of the left ventricle near the middle and to the outer side was seen a small sub-epicardial hæmorrhage of about the size of a halfpenny, on the outer side of which was the external aperture of the rupture of about the size of a pin's head. On cutting through this the rupture was seen to extend from the inner surface of the ventricle and to be V-shaped. The wall of the ventricle was fully half an inch thick, but was pale, soft, and flabby. The coronary arteries, however, were apparently healthy. The mitral valve was dilated and there was slight thickening of the aortic valves, the first part of the aorta also being slightly roughened. The vessels at the base of the brain were markedly atheromatous and the choroid plexuses were calcareous.

A somewhat similar case, also in an insane patient, was published by Dr. H. Kerr in THE LANCET in 1904[1] in which he refers to the rarity of the condition. In his case, however, the patient apparently succumbed immediately, although, as in the one above, there was no history of sudden exertion or strain.

I am indebted to Mr. W. Bevan-Lewis for permission to publish this case and to Dr. J. A. Creighton, assistant medical officer, for the clinical notes.

Wakefield.

NOTE ON A CASE OF OSTEO-FIBROMA OF THE MAXILLA.

BY ANDREW WYLIE, M.D., C.M. GLASG.,
ASSISTANT SURGEON, CENTRAL LONDON THROAT AND EAR HOSPITAL.
With a Pathological Report by V. H. WYATT WINGRAVE, M.D. Durh., *Pathologist to the Hospital.*

THE patient, a man, aged 53 years, consulted me on Jan. 9th complaining of a "growth in the palate" of 25 years' duration. He suffered no pain and very little discomfort; in fact, he stated that beyond a certain amount of anxiety it gave him no trouble, and having grown slowly and gradually he had got quite used to it. Mastication and deglutition were performed without any difficulty, and with the exception of a slight "thickness" or impaired resonance

[1] THE LANCET, Dec. 31st, 1904, p. 1832.

his voice and articulation were normal. He had always enjoyed perfect health and his teeth were sound. On examination a large smooth oval swelling was seen occupying the whole of the hard palate. It was the same colour as the surrounding mucous membrane; it was not tender to the touch, very firm in consistence, and slightly moveable on steady pressure. It was apparently attached by a thick pedicle to the left alveolus behind the second molar and had moulded itself to the hard palate. Without employing any anæsthetic a stout wire was passed round the tumour by means of the ordinary Wylde's polypus snare and with the exercise of moderate force the pedicle was cut through with a grating noise suggestive of bone crushing. There was practically no bleeding at the time of the operation or afterwards from the stump which was of about the size of a sixpence and healed rapidly without any complication.

Pathological report by Dr. WYATT WINGRAVE.—The tumour has the appearance of a new potato; it measures 5 by 2·8 centimetres and weighs 13 grammes. The cortical part for a depth of about five millimetres is firm and tough and incloses a hard stony core which reaches the surface at its point of attachment. In structure the cortex is composed of densely packed white fibres mingled with elongated fusiform cells (fibroblasts). The stone-like core consists of compact bone with relatively small cancellous spaces approaching the character of ivory or petrous bone. In nature it is evidently an osteoma growing from the periosteum of the maxilla to which it was attached. There was no sign of any sarcomatous tendency.

Remarks.—Such growths are by no means uncommon in connexion with the facial skeleton, for 16 specimens were shown at the Pathological Museum of the Sixth International Otological Congress, London, 1899 (Churchill's Catalogue, 1900); but this case is interesting from its clinical appearance and its admitting of so easy a removal, since such tumours not infrequently grow in connexion with the maxillary antrum and involve the orbit and other important structures.

Harley-street, W.

A CASE OF CARBOLIC ACID POISONING; RECOVERY.

BY EDWARD BALM,
CIVIL SURGEON, AURANGABAD, DECCAN, INDIA.

ON Dec. 21st, 1907, at 12.30 P.M., I was informed by the father of the patient that his son, aged 19 years, accidentally swallowed 4 ounces of pure carbolic acid half an hour before (thinking it to be some other mixture he was taking). The 4-ounce empty phial, labelled "carbolic acid," was brought and shown me. The boy was ordered to be brought to the dispensary and on admission the symptoms and signs were as follows. He was cyanosed, there was a dark ring round the mouth, there was stupor, the muscles were relaxed, he was unconscious, the breathing was laboured, the pupils were contracted, the cornea was not sensitive, the skin was cold and clammy, the pulse was very thready, and frothy mucus escaped from the mouth. The stomach was washed out by the pump after administering six ounces of castor oil; 3 ounces of Epsom salts in solution were then given. After this the patient began to get worse. The breathing became stertorous, froth issuing from the mouth and the nose, the cornea was insensitive, and the pulse was only a feeble wave. I then gave him a rectal injection of 1 drachm of the tincture of digitalis and 1 ounce of rectified spirit in 6 ounces of water—i.e., two hours after admission.

Finding no improvement I commenced artificial respiration and gave a hypodermic injection of 5 minims of liquor strychninæ as the breathing was very stertorous and the pulse was imperceptible. This had no effect, and when all hopes of the case were lost both by myself and the patient's relatives the idea struck me that if I were to relieve the lungs of their congestion it would help the action of the heart as well as that of respiration, and as a *dernier ressort* I removed an ounce of blood from the base of each lung by wet cupping (the blood was very fluid). Exactly four hours after the commencement of treatment and about 15 minutes after removal of the blood the cornea began to wince a little; a few minutes later the patient began to raise one of his legs, which was followed by the chattering of the teeth. Before the end of the fifth hour he fully recovered but complained of a dull pain in the head, burning sensation at the pit of the stomach, and painful throat.

The after-treatment consisted in steam inhalation for two days and a gargle containing chlorate of potassium. The patient was kept on milk and white of eggs for six days and for another six days a little gruel was allowed besides. On the twelfth day I discharged him from the hospital.

Aurangabad, Deccan, India.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

LARYNGOLOGICAL SECTION.

Exhibition of Cases and Specimens.

A MEETING of this section was held on May 1st, Dr. J BARRY BALL, the President, being in the chair.

The following cases and specimens were exhibited:—

Dr. W. S. SYME: A series of Stereoscopic Photographs of patients operated on by various methods for Frontal Sinusitis, one of which showed the effect of injection of paraffin to remedy the resulting deformity.

Dr. W. JOBSON HORNE: Nine specimens from cases of Sarcoma and cases simulating Sarcoma in the Upper Air-passages. In all the diagnosis of sarcoma was suggested on clinical or pathological grounds but the large majority proved eventually to be innocent growths.

Dr. DAN MCKENZIE: A case of Mucocele of an Anterior Ethmoidal Cell in a man aged 35 years; it had been successfully opened from the nose.

Dr. J. DUNDAS GRANT: 1. A large Post-nasal Polypus growing from the maxillary antrum of a young girl. 2. A case of Lupoid Tuberculous Ulcer of the Interior of the Nose in a phthisical patient. 3. A case of Congenital Laryngeal Stridor in a boy aged three and a half years; the stridor was marked, except when breathing very quietly, and had existed all his life with hardly any improvement.

Dr. JOBSON HORNE: A case of Lupus of the Epiglottis in a girl, aged 17 years, who had no sign of tuberculosis or of lupus in other organs.

Mr. H. CLAYTON FOX: A case of Abductor Paralysis of the Right Vocal Cord, with Paresis of the Facial Muscles.

Dr. W. H. KELSON: A case of Tuberculous Laryngitis.

Dr. ANDREW WYLIE: An Angeioma of the Right Tonsil in a woman, aged 26 years.

Dr. J. W. BOND: A case of Malignant Growth, situated behind the cricoid cartilage in an elderly woman, and associated with enlargement of the thyroid gland.

Mr. A. HAMILTON BURT: A case of Septal Deflection in a consumptive patient, for discussion on the advisability of operation.

Mr. E. WARD: Subcutaneous Induration of the Neck in a woman, aged 32 years.

ODONTOLOGICAL SECTION.

Exhibition of Specimens.—Movements of the Mandible.

A MEETING of this section was held on April 27th, Mr. H. LLOYD WILLIAMS, a Vice-President, being in the chair.

The CURATOR exhibited some recent additions to the museum, including specimens of Tusks of Female Dugong, Odontome in an Antelope, Jaws of a Horse and Skulls of Lemur affected by "Swollen Head," and Tumour of Palate of 20 years' growth, apparently a fibroma undergoing malignancy.

Mr. H. W. TREWBY showed models of a case of Incomplete Eruption of the Molars.

Mr. NORMAN G. BENNETT read a paper on the Movements of the Mandible. He described how a wire framework had been made to attach to the lower teeth and to carry two small electric glow lamps in a vertical plane parallel to the median plane. One lamp was immediately opposite the right condyle, the other opposite the sulcus below the lower lip. The subject had sat, during experimentation with the apparatus, with his right side opposite a wall with a large sheet of paper pinned upon it and a convex lens being interposed was so arranged as to focus the images of the lamps on the screen. Thus the paths of the condyle and symphysis during opening of the mouth had been obtained and corresponding points for different positions of momentary rest marked on the

paths. A diagram showing lateral movements of the jaw had been obtained by the subject sitting facing the wall. A demonstration was then given of the geometrical theory of the centre of rotation for plane motions. It was shown how for any such motions of translation combined with rotation two polygons and curves called "centrodes" could be derived, these "centrodes" being uniquely associated with the particular movement. The movement could be reproduced by rolling one centrode upon the other. Charts and models were exhibited illustrating the paths of the condyle and symphysis and the centrodes derived from these paths. Mr. Bennett proved by these means that for the ordinary movements of the mandible in opening and closing the mouth there was no fixed centre of rotation, but that the centre was constantly shifting its position, and its path might be marked out starting behind and below the condyle, passing backwards and downwards, then forwards, and finally upwards and forwards, finishing at a point a little below the condyle path. The general character of this path exhibiting the successive positions of the instantaneous centre of rotation was well shown in a large wooden linkwork mechanism based on mathematical calculations. The movement of the condyle and symphysis was demonstrated and the instantaneous centre at any particular movement found at the point of intersection of two moving indicators. Other details in connexion with the correlative positions of the paths of the condyle and symphysis were referred to and several interesting observations regarding lateral movements of the jaw were made. Mr. Bennett concluded by making some remarks on the bearing of his investigations on the question of an ideal articulator and the taking of "bites" for edentulous cases.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—A meeting of the Northern and Midland Division of this association was held on April 30th, Dr. P. W. Macdonald, the President of the association, being in the chair.—Dr. Guy R. East, of Northumberland County Asylum, Morpeth, read a paper on a case of Cretinism, illustrated by photographs. The patient presented all the typical symptoms of this disorder. An interesting feature was the enlargement of the thyroid gland which was chiefly confined to the right lobe. This tumour was elastic to touch, freely moveable, painless, and in no way hampered respiration. The blood revealed a reduction in the percentage of hæmoglobin and the urine showed an increase in the amount of urea excreted. The patient had been under treatment with thyroid extract but had shown no signs of mental improvement.—The President remarked upon the rarity of cretins in asylums and said that after careful inquiry he had not found a single case in Dorset.—Dr. C. F. F. McDowall, of the City Asylum, Newcastle, read a paper upon the Occurrence of General Paralysis in Father, Mother, and Son. The cases were recorded, not that individually they were remarkable, but collectively they were extremely interesting, if not unique. In the only case, that of the boy, which might have caused a moment's hesitation in diagnosis, a post-mortem examination revealed characteristic lesions of general paralysis. The duration of the mother's attack was 10 years, while she had previously been under control in an asylum. The signs of general paralysis were only seen in her case five years before death. She was then living apparently contented in an asylum and why the cerebral degeneration should have commenced appears obscure. She was exposed to no strain or stress nor did she suffer privation. Syphilis could not be definitely proved but it could not be excluded. The man was a loose liver, while the boy showed certain suggestive lesions of congenital syphilis. The son was regarded as an undoubted example of juvenile genèral paralysis.—In the discussion which followed the President suggested that there was not sufficient proof that syphilis was present and he did not accept the proposition "No syphilis—no general paralysis." He could name cases of general paralysis in country districts in which he was satisfied that there was no syphilitic taint. He said it was remarkable that the mother had such a long period of excitement.—Dr. J. Middlemass (Sunderland) remarked on the long history in the mother's case and the weight of the son's brain (65 ounces) was unusual. He quoted a case of a congenital imbecile developing general paralysis in Morningside Asylum.—Mr. Gilbert E. Mould (Rotherham) continued the discussion.—Mr. Harold R. Cross, senior assistant medical officer at Storthes Hall Asylum, Huddersfield, showed two interesting cases, one presenting Marked Conical Cornea, and the other Atrophy of the Right Deltoid and Weakness of the Muscles of the Arm, the cause of which could not be ascertained.—Mr. Michael W. Kelly, assistant medical officer at Storthes Hall Asylum, also showed two cases: 1. A boy, aged 14 years, with Petit Mal. During the attacks, which lasted about 20 seconds, he used bad language. He awoke at night with a shout as if dreaming, but stated that he did not dream. Sometimes he had 20 of these during the night; at other times he might go four or five weeks without a fit. 2. A female, aged 30 years, who in January, 1906, developed Acute Melancholia with Active Suicidal Tendency. In the following September and October she refused food and had to be tube-fed and appeared to be becoming demented. She was transferred to Storthes Hall on March 5th, 1908, began to take interest in her surroundings, and now appeared to be on the road to recovery.

MEDICO-LEGAL SOCIETY.—A meeting of this society was held on April 28th, Mr. Walter Schröder being in the chair.—Mr. F. G. Frayling read a learned paper on Infanticide, its Law and Punishment and Suggested Alterations. He held that owing to the slight possibility of being able to prove the dead child's previous "separate existence in law" and to the ordeal of the mother committed for trial on the capital charge the crime should be no longer regarded as murder, from which it differed in several particulars; a distinct offence should be created or it should be regarded as a misdemeanour or a felony, otherwise the Prevention of Cruelty to Children Act, 1904, might be modified and applied to the newly born.—Mr. Schröder felt that juries realised that they were often not dealing with the person most concerned; further, the death sentence was not a deterrent in these cases as it was never carried out.—Dr. Charles A. Mercier thought that the appearance of the accused girls led juries to exhibit a leniency to which they had no claim; he doubted if such girls were so sensitive in nature as was sometimes alleged. The jury might fancy that newly born children were hardly endowed with a conscious being, but such an idea was not present when charges of abortion were considered. The sanctity of human life must be guarded; the death penalty was a real deterrent.—Dr. W. H. Willcox regretted the present attitude of the law which led to proceedings in these cases which were almost farcical.—Mr. John Troutbeck thought that coroners were the only officials who saw what a wicked and important crime infanticide was: they had to deal with the many babies which were cast away. The criminal courts only met cases which could be traced; usually no clue was available. If violence had preceded the attempted concealment of birth the matter deserved to be treated seriously. It was notable that sober married women regarded this offence very seriously and in no case should it be treated as a matter of no great consequence.—Dr. L. Freyberger thought that the need of proving technical "separate existence" should be abolished, as it prevented the law from dealing fairly with the case; sometimes the death might have been the irresistible result of a dominating idea.—Dr. James Maughan believed that insanity of parturition was a possible, if rare, condition. The penalty for the offence of infanticide was at present inadequate in practice.—Dr. C. H. Wise thought that in this as in other matters the public suffered from the subtlety and ingenuity of lawyers. It was absurd for a hiatus to exist between procuring abortion and killing a child after birth. All punishment in legal offences should be sure and certain. The violence exhibited by mothers in some of these cases might be explained by ignorance, terror, and frenzy.—Dr. B. H. Spilsbury urged that medical men might at times have difficulty in deciding whether a child is living or dead, much more difficult would it be for an ignorant woman; evidence of viability should be considered and the presence of wilfulness examined.—Mr. F. O. Arnold held that infanticide was more prevalent than the criminal statistics would suggest, hence great care should be taken before alterations were made. The conditions of each case influenced the jury more than the strict law applicable.—Mr. Frayling having replied, the meeting was closed.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 9th, Mr. G. L. Thornton, the President, being in the chair.—The President read notes and commented on a case of Arthritis with Purpura. The patient was a young married woman in the eighth month of her first pregnancy. There was nothing unfavourable in her family history or previous

health. The onset of the illness was sudden with sore-throat, headache, backache, and articular pain. Purpuric spots were noticed on the second day. She aborted on the sixteenth day of the illness, the child (a male) surviving for a few hours. The puerperium was satisfactory. Fever of a mainly intermittent type continued until the sixtieth day and during the whole of this period she suffered intense pain in all her joints. Outward manifestations were limited to the knees where there was effusion but no redness. There was œdema of the feet and legs. Nervous disturbance with occasional hysterical outbursts of a maniacal nature during the first three months rendered any movement impossible. By January, 1906, massage and movements had rendered both upper extremities normal, but in the lower there was little mobility to be obtained in any joint. In June, 1906, the ankles moved more freely and there was improvement in the left knee-joint, but the right knee-joint and both hips appeared to be ankylosed. Spa treatment was now given a trial but after two months at Bath the patient returned *in statu quo*. Early in 1907 she at last consented to movements under an anæsthetic and with great difficulty the thighs were separated, the adhesions met with being chiefly outside the joints. The knee-joints were left to a subsequent operation. In April of the same year further movements were accomplished, the left knee-joint being flexed to the full and the right to about half the normal. Slight effusion followed. The patient was now undergoing a course of heat baths and massage, and there was promise of the joints being restored to almost normal function. The interest of the case lay, in the great amount of crippling although the illness was at no time severe enough to cause real anxiety (the temperature, save on one occasion, did not exceed 102° F.); in the conjunction of the arthritis with purpura, wherein arises the question of diagnosis; acute rheumatism and septic arthritis had both been put forward in addition to the provisional one of peliosis rheumatica made at the outset. In the President's opinion acute rheumatism was negatived by the want of reaction to salicylates, by the total absence of sweating, and by the normal blood picture at an advanced stage of the illness. Against the septic theory were absence of rigors and sweats, redness of skin, and signs of fluctuation around the joints. The almost normal condition of the articular joint surfaces subsequently discovered at the operations also negatived a septic origin. Until they were better informed on the whole of the arthritic affections purpura or peliosis rheumatica seemed to be the diagnosis to receive most support in this case. As regarded treatment quinine in effervescence appeared to have had some control over the pyrexia, but alkalies, salicylates, and aspirin were futile.—After the case had been discussed Dr. R. V. Solly read a paper on Acetonæmic Conditions.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 16th, Dr. R. Gordon being in the chair.—Dr. Arthur J. Hall read a paper on Some Difficulties of Diagnosis. In considering how such difficulties commonly arose he divided the causes into (1) insufficient knowledge; (2) insufficient experience; and (3) insufficient data. The third of these causes could be further subdivided according as to whether the data were really non-existent or whether they existed but had not been obtained. Allowing for a certain number of cases in which insufficient experience led to erroneous deductions it must, he said, be generally admitted that the most common source of difficulty in diagnosis was due to insufficient data and that most commonly such inefficiency was due to hurried or to careless examination. These points were illustrated by numerous examples, particularly of functional nervous disorders simulating organic disease and of abdominal cases with unusual and confusing symptoms. The paper concluded with some remarks on the difficulty of diagnosing malignant disease of the digestive tube from functional disorders and a plea was made for a more general use of the assistance which the laboratory offered to the clinician in clearing up doubtful cases.—Mr. Arthur Connell read notes of the following cases and showed the specimens: 1. Uterus Bicornis Bicollis removed by Abdominal Hysterectomy from a girl, aged 15 years, who had menstruated for two days on one occasion only. Having missed three periods she began to have great pain at the fourth period and became very ill (vomiting, abdominal colic, &c.). Rectal examination revealed a large globular mass, elastic in character, occupying the vagina and continuous with a similar tumour to the right of the mid-line. On admission to the infirmary she was anæsthetised and in the lithotomy position by the most careful examination no cervical opening could be made out, so a trocar was inserted into the globular swelling and the usual chocolate-coloured retained menses escaped. A glass tube was used as a drain. In spite of every precaution to the contrary, about six weeks afterwards the temperature rose to 99° F. and the discharge became semi-purulent so hysterectomy was performed. The one outstanding item in the case that struck all concerned was the extreme rapidity of growth of the girl. She was an in-patient for nearly three months and from being a miserable little child for her age (15 years) was discharged quite a buxom young woman. 2. Acute Obstruction in a woman, aged 53 years, due to a columnar carcinoma growing at the junction of the cæcum with the ascending colon on the posterior wall. Operation was proceeded with in two stages and death resulted from stercorræmia. 3. This was the case of a patient who was admitted for Pain in the Right Side with Pronounced Constipation which was a usual habit. A columnar carcinoma was removed from the cæcum and ascending colon. An end-to-side anastomosis with a large Murphy's button was followed by an uninterrupted recovery.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 14th, Mr. H. Shackelton, the President, being in the chair.—Dr. T. Jason Wood showed a specimen of Extra-uterine Gestation and read notes on a case of Missed Labour.—Mr. J. Phillips showed the Brain of a boy, aged eight years, with a Cerebellar Tumour with Hæmorrhage into it causing sudden death. He also read a paper entitled, "Notes on a Method of Obtaining Rapid Healing in cases of Acute Abscess." The method is based on the belief that wherever all the pus and débris could be removed from an abscess cavity and the recollection of dead contents to act as a culture medium could be prevented practically primary healing would take place. The method consists in (1) surgically cleaning the skin about the operation area; (2) making an incision large enough to allow the finger (covered with gauze) to be introduced, with which the wall of the cavity is carefully rubbed clean and smooth; (3) packing the cavity tightly with disinfectant gauze; (4) first dressing after 48 hours, packing being removed and not reapplied but a simple gauze and wool external dressing fixed on with tight bandage; and (5) wound treated now as if simple incision. No further discharge takes place and dressing need only be done once in four or five days. Mr. Phillips's illustrative cases included glandular abscesses in the thigh and beneath the sterno-mastoid, abscesses in puerperal pyæmia, loculated mammary abscesses, ischio-rectal abscesses, and others.—The paper was freely discussed and Mr. Phillips replied.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on May 1st, Dr. W. Langdon Brown, the President, being in the chair.—Dr. Alexander Morison read a paper concerning the Nature of Heart Pain. He discussed the various theories that had been put forward to explain angina pectoris and he described the post-mortem conditions that had been found in fatal cases. He explained the phenomena of the attack and the causation of death. He concluded that angina pectoris or cardiac pain was a symptom of painful stimulation impressed upon the nerves of the heart or on the vessels immediately leaving it or running through it, which was originated by more conditions than one. It might be due to muscular spasm or to cramp causing pain much as it did in the muscles of the leg in the somatic division of the sensori-motor nervous system, or to inflammatory or degenerative changes in the vessels near or in the heart which exposed or irritated the nervous structures in the vicinity of such changes or, in similar cases, to actual changes in the nervous endowment of the organ.—Dr. David Ross showed a man, aged 30 years, with a new growth pressing on the right subclavian vein and the neighbouring lymphatics and causing marked solid œdema of the chest wall, the shoulder, and the arm. Six and a half years ago he had had a large round-celled sarcoma removed from the outer side of the right ankle. Dr. Ross also described the treatment of swallowed foreign bodies by the administration of cotton-wool and related a case in a boy aged three years.

THE summer session of the North-East London Post-Graduate College will open on May 11th. Arrangements are in progress for a vacation course to be held in September next.

Reviews and Notices of Books.

The Thirteenth, Greatest of Centuries. By JAMES J. WALSH, M.D., Ph.D., LL.D. New York: Catholic Summer School Press. 1907. Pp. 436.

WE have read Dr. Walsh's book with great interest and as he himself says in his preface that there may be errors in detail in his pages, we are sure that he will not mind our commenting upon some of these in the hope that when a second edition is called for, as it ought to be, he will see fit to revise his text.

The thirteenth century was, if not the greatest, at least one of the greatest periods of human thought. In the various forms of art, especially architecture, in literary activity, in the lives of men of extraordinary intellectual power, in a burning desire for the welfare of the human race as exemplified by missionary activity and the rise of the two great orders of the Dominicans and Franciscans, it stands out like some great mountain peak above the plain. But the activities of the century did not spring into birth as novelties. They were extensions of what had gone before. And here we think that Dr. Walsh, like the Player Queen in *Hamlet*, "doth protest too much," for the impression which his book gives is that the manifold activities of the thirteenth century were the product of that century and that they were in the main ecclesiastical. For instance, on p. 21 he says, "While the universities, as is typically exemplified by the histories of Bologna and Paris, and even to a noteworthy degree of Oxford, grew up around the cathedrals. ....." This is too wide a statement. The University of Paris undoubtedly did grow out of the Cathedral School, but Bologna grew from a society of students of law who were attracted by teachers of law such as Pepo and Irnerius.

As for Oxford, the beginnings of which University are somewhat nebulous but which probably took its rise in the expulsion from Paris of "alien scholars," it cannot be said that the University grew up around the cathedral. To begin with, there was no cathedral at Oxford until 1542. The cathedral church of the diocese in which Oxford was situated was Lincoln, more than 100 miles away. It is true, however, that the Chancellor of Oxford was the Bishop's delegate.

Again, Dr. Walsh in his third chapter, which deals with the studies of mediæval students, is rightly anxious to show that scholastic teaching was not mainly concerned with hair-splitting subtleties. He lays stress on the fact that St. Thomas Aquinas taught the doctrine of the conservation of matter and energy. "The truth itself, however, had been reached by this mediæval master mind, and was the subject of his teaching to the University students of Paris in the thirteenth century." He imples, it would seem, that St. Thomas arrived independently at this fact. No one will deny the vast intellectual powers of Aquinas, yet it had been taught long before by Lucretius and his predecessors. It is fair to state, however, that Dr. Walsh says on p. 40 that the views as to the ultimate constitution of matter recently put forward by Sir Oliver Lodge and others had been taught by the schoolmen who had adopted them from Aristotle. It may be noted in this connexion that a modern observer, M. Gustave le Bon, holds that energy is not indestructible.

On p. 337 Dr. Walsh claims that it is to Innocent III. that we owe the modern city hospital as we have it at the present time, yet on the following page he says that Innocent founded his hospital on the model of the one then existing at Montpellier. Dr. Walsh allows that St. Bartholomew's Hospital in London had been founded at the beginning of the twelfth century as a priory to take care of the poor and ailing, "but at the beginning of the thirteenth century it became more frankly a hospital in the modern sense of the word." Now St. Bartholomew's was always a hospital. In fact, the hospital was founded before the priory. Moreover, the statutes of the hospital at Angers which was founded in 1175, and was therefore be it remembered under the English Crown, give directions for the sick to be sought out and admitted for treatment.

In his chapter on the great Latin hymns (Chapter XII.) Dr. Walsh in his zeal for his favourite century is led into looseness of expression. He says that most of the great Latin hymns were composed during the thirteenth century and a few of them shortly before it. He then goes on to say that these hymns were sung by the whole congregation and that it seems probable that "people went to church during the thirteenth century more than 100 times a year." This is quite true, for besides attending mass on Sundays and on various other feast days an English layman was supposed to attend evensong on Saturdays and "uht song" (matins) on Sundays as well.[1] But Dr. Walsh goes on to say, "Twice a week then at least there was the uplifting cultural influence of this congregational singing of wonderful hymns that are among the greatest poems ever written and that belong to literature of the very highest order." The hymns to which Dr. Walsh specially refers—namely, Dies Irae, Stabat Mater, and the Pange Lingua of St. Thomas Aquinas—were what is technically called Proses and were only sung on special occasions. Dies Irae was sung at Requiem Masses, Pange Lingua on Corpus Christi, and Stabat Mater on the Friday in Passion Week. There were, of course, many other Proses but they were mostly of much more ancient date than the thirteenth century, and we are by no means so certain as is Dr. Walsh about the congregational singing.

We are quite in accord with Dr. Walsh's enthusiastic admiration of the Latin hymns, only we protest against his assumption that the finest were the product of the thirteenth century alone. With the exception of the Dies Irae, which, in subject, diction, rhythmical and literary skill, stands, perhaps, on a plane by itself, many of the earlier hymns are equal to any of the thirteenth century. Take, for instance, the "Veni Redemptor Gentium" of St. Ambrose, the "Vexilla Regis" and "Pange Lingua" of Fortunatus, and the Palm Sunday Hymn of Theodolphus which commences "Gloria Laus et Honor, Tibi sit Rex Christe Redemptor."

Finally, we must refer to a few slips which are evidently due to incomplete revision. On p. 63 "Anstey's Mon. Acad." should be "Mun. Acad.," the full title of the book being "Munimenta Academica." On p. 196 the name Haydn is misspelt Hayden and on p. 267 the Rev. Augustus Jessop is called "a non-conformist clergyman in England." Dr. Jessop is the rector of Scarning, Norfolk.

We have given much space to this work and have pointed out its failings, with an earnest hope that as it contains much good work, and is evidently written by one who has tried his best, it may be revised for a second edition. The thirteenth century is so great an epoch that it does not need the attribution of matter to which it can lay no claim. "Vixere fortes ante Agamemnona," and although the art, the intellectual activity, and the enterprise of the century were remarkable they were not new departures. To take one other point. Missionary enterprise and exploration were much to the fore, especially in the East. Yet as early as the tenth century the great Nestorian Church had an organisation, although in formal heresy, which stretched from Asia Minor to China.

The Major Symptoms of Hysteria. By PIERRE JANET, M.D., Professor of Psychology in the Collège de France and Director of the Psychological Laboratory of La Salpêtrière. London and New York: Macmillan and Co. 1907. Pp. 345. Price 7*s.* 6*d.* net.

THE study of hysteria has, for a time, gone out of fashion in England. The rising generation is perhaps attracted by the more tangible results of bacteriology, and possibly the

[1] Rock: Church of our Fathers, vol. iv., new edition, 1904.

older generation is beginning to think, as Lord Kelvin is reported to have said in reference to certain points in astronomy, "There are some things we do not, and never shall, know." Many foreign observers, however, chiefly among psychologists and alienists, have devoted a great deal of attention to hysteria. In former times hysterical phenomena were regarded as supernatural, if not due to wickedness or sham; later they were attributed to some "physiological or dynamic change in the brain," as Charcot expressed it. In the present day many observers, particularly among the psychologists, have come to the conclusion that all hysterical phenomena arise entirely within the mind of the patient—in short, that they are ideogenic in origin. The book under review is by one of the ablest exponents of the psychic view and is really an abridgement of the author's larger work, entitled "L'État Mental des Hystériques," published in 1893. Dr. Pierre Janet was one of the late Professor J. M. Charcot's pupils, and it is worthy of note that he thinks M. Charcot "sought the general laws" which govern hysteria "too much in the physiological domain, which led him into a certain number of regrettable errors" (p. 17).

The work under review is in English and consists of 15 lectures delivered before the Medical School of Harvard University. The title of the book appears unfortunate, for nobody knows precisely, and Dr. Janet does not attempt to inform us, which are the major symptoms of hysteria and which the minor. Nor does the title describe the contents of the book which deals only with one aspect, the psychological aspect, of hysteria as a whole. The work treats of the psycho-pathology of hysteria. The author states in the first lecture that pathological psychology is more easily studied in hysteria than in other diseases, partly because "the patients are easily managed, talk willingly, like to be observed, and easily lend themselves to examination," and partly "because it is only among hysterical patients that hypnotism is to be found in any marked degree." It is very doubtful, according to Bernheim, Lloyd Tuckey, and others, whether this latter statement is strictly accurate. There is no doubt, however, that the Salpêtrière School has rendered some service to science by endeavouring to bring hypnotism within the boundaries of scientific observation and utilising it for the purpose of studying morbid psychology. Dr. Janet considers that hysterical phenomena are of the nature of an auto-hypnotism, a mental abstraction, or a diminution of certain fields of consciousness. To use his own words, "Hysteria is a form of mental depression characterised by the retraction of the field of personal consciousness and a tendency to the dissociation and emancipation of the systems of ideas and functions that constitute personality." As an illustration, his observation may be mentioned that patients affected with marked hysterical retraction of the visual field as measured by the perimeter nevertheless have no difficulty in running about and avoiding obstacles and in playing ball, and they can read with ease in a way that a glaucomatous patient with a similar retraction cannot do. This observation leads him to the inference that hysterical patients must retain a *subconscious* power of visual perception, and that their amaurosis is due to a retraction of their field of *conscious* perception. Dr. Janet considers that somnambulism (defining a somnambulist as an individual who thinks and acts while he is asleep) is the most constant symptom of hysteria, and with deference to his translator we would suggest automatism as a better word than somnambulism and as expressing a characteristic that is certainly common among hysterical patients. Dr. Janet discusses many different varieties of somnambulism and dual personality, convulsive attacks, muscular contractures, paralyses, troubles of vision, and troubles of speech. As an instance of the dissociation which plays such a large part in the author's view of hysteria the outgoing impulses which start in the ideo-motor centres of the brain and result in movement of the voluntary muscles may be mentioned. Every voluntary movement is a complex of the several muscles employed, and this complex, says Dr. Janet, becomes dissociated; the various ideo-motor impulses concerned become dissociated from one another and from the rest of consciousness.

Other mental characteristics of the hysteric are suggestibility and an exaggerated absent-mindedness. The author contends that suggestibility is a constant feature of the hysterical character, and he discusses very fully the meaning of the term suggestibility and defines it as the complete development of an idea without any "participation of the will or of the personal consciousness of the subject." In a normal individual an idea becomes manifest physically when the subject consciously acts in accordance with his idea. Thus the idea of walking is formed and the subject's conscious desire leads him to move his limbs and walk; his will and personality enter into the action. With the hysterical patient, on the contrary, the physical actions due to "suggestion" are executed subconsciously.

Dr. Janet's view is that all hysterical symptoms and manifestations are capable of a purely psychological explanation. Many of his explanations are ingenious and are as clearly reasoned as such abstruse topics can be; so clearly that the general reader can in nearly every case follow them. But we rise from a perusal of this work with a feeling, first, that his field of observation and inquiry has led him to take too narrow a view of hysteria and hysterical disorders; and secondly, that no one theory is capable of explaining the occurrence of all varieties of hysterical disorder. Undoubtedly psychology may explain a great many of these affections, but there are others, such for instance as attacks of palpitation, visceral manifestations of various kinds, and the *œdème bleu* of Charcot in which the explanation can only be sought in other parts of the nervous system. But we cannot help feeling also that the English-reading public are much indebted to Dr. Janet for having placed before them this clear and masterly review of a most difficult subject.

Diets in Tuberculosis: Principles and Economics. By NOEL DEAN BARDSWELL, M.D. Edin., M.R.C.P. Lond. & Edin., F.R.S. Edin., Medical Superintendent, King Edward VII. Sanatorium; and JOHN ELLIS CHAPMAN, M.R.C.S. Eng., L.R.C.P. Lond., Medical Superintendent, Coppins Green Sanatorium. London: Henry Frowde, Oxford University Press; and Hodder and Stoughton. 1908. Pp. 184. Price 6*s*.

THIS volume forms one of the Oxford medical publications. The authors have succeeded in producing an interesting treatise, for although the chief theme is a discussion of the most suitable diet for patients suffering from pulmonary tuberculosis, a secondary but equally important consideration is entered upon—namely, the economics of diet. As is pointed out in the preliminary remarks, it is of no use telling a consumptive working man earning 25*s*. a week and with a wife and family to keep to take three pints of fresh milk and plenty of meat and butter daily. Some precise information as to how he might provide himself with an adequate diet for 8*d*. a day would be far more useful.

The scope of inquiry decided upon by Dr. Bardswell and Mr. Chapman resolved itself into an attempt to determine the following points: (1) the best principles upon which dietaries for consumptives should be constructed; (2) the nutritive value in terms of proteid and total calorie value of the diet which is suitable for the treatment of the average consumptive, in short, a standard diet; (3) the best lines upon which such an efficient dietary can be economically constructed for actual use; and (4) the minimum cost at

which a suitable dietary can be bought retail. Inquiry carried out on these lines suggested a further series of observations upon: (1) the comparative nutritive and economic values of various foodstuffs; and (2) the comparative value of proteid from animal and vegetable sources in the dietetic treatment of consumption.

An elaborate series of investigations was made the results of which are recorded in this work and which may be studied with advantage. One of the points considered concerned the advantages and disadvantages of treating consumptives with very large diets. In the case of patients who have good constitutions, and especially good digestions, continued high feeding may produce no permanent, and indeed little or no temporary, ill effects, except perhaps some dyspnœa due to excess of body weight. In many instances, however, and notably in the case of patients with naturally weak digestions and in those who continue the high feeding for a long time after the normal body weight has been considerably exceeded, the taking of a very large diet is attended with serious disadvantages. The authors point out that one of the earliest symptoms is failure of appetite, amounting to a positiv loathing for food, usually associated with flatulent dyspepsia. The conclusion at which they arrive on this point is that the most satisfactory diet is one which represents only a moderate increase upon the diet suitable for any particular patient when in normal health.

Investigations were made as to the value of meat-free diet for patients suffering from pulmonary tuberculosis. If the case is an early one and the digestion is good then Dr. Bardswell and Mr. Chapman maintain that proteid from vegetable sources is just as valuable from a clinical point of view as proteid from animal sources; but if the disease is advanced, the digestion poor, and the appetite capricious great difficulty may be found in taking the meat-free diet and the proper amount of such diet could probably not be taken. When economy, however, is an object the necessary proteid in a dietary should be given at least in part in the form of vegetable proteid.

The remarks on the economics of diet are interesting and instructive. The free use of bread and pulses is especially advised. Some of the conclusions arrived at are founded on only a few cases and possible fallacy is fully acknowledged, but, nevertheless, the investigations are certainly suggestive and much advantage might be gained in instructing the patients in the sanatoriums for the working classes as to the form of diet which is most likely to possess the required nutritive power at the lowest cost.

The Medical Annual: A Year-book of Treatment and Practitioners' Index. 1908. Twenty-sixth year. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. Bristol: John Wright and Co. Pp. 883. Price 8*s.* 6*d.*

THE twenty-sixth volume of the "Medical Annual" affords evidence of the large amount of practical and progressive work which is being accomplished in connexion with medical science. On glancing through the pages of this volume the reader is at once struck by the thoroughness with which the records have been made by the various contributors.

As in previous years the work contains a few short essays by various authors on subjects which have particularly attracted attention during the past year. Dr. J. G. Emanuel, physician to out-patients, Queen's Hospital, Birmingham, writes on opsonins and vaccines and gives a clear account of the technique which is required for estimating the opsonic index. Dr. Ernest Young contributes an excellent article on the value of fæcal examination in chronic diseases. He describes the method of examination, the "trial diets," and the macroscopical and microscopical appearances which may be noted and the deductions which may be drawn from them. Professor Victor Schmieden (Royal Surgical University Hospital, Berlin) writes on treatment by passive hyperæmia and indicates the conditions for which it is suitable. Dr. E. R. Morton (in charge of electrical department, London Hospital) describes the latest developments of radio-therapeutics and electro-therapeutics, drawing especial attention to the orthodiagraph. The main part of the "Annual," however, is occupied by the "Dictionary of Treatment" which contains a mass of valuable and practical information, the various subjects being arranged alphabetically.

Dr. R. W. Philip (Edinburgh) writes on tuberculosis and comments on Calmette's ophthalmic reaction with tuberculin. He is of opinion that the test is delicate and trustworthy, and that it is of ready application in the case of irritable, excitable children where other methods of diagnosis may be interfered with. He has found it of particular value in the separation of a number of cases in which there was difficulty of diagnosis between tuberculosis and rickets. Mr. E. Hurry Fenwick makes some interesting observations on benign enlargement of the prostate and maintains that the best results obtained by prostatectomy have been in those patients who have used a catheter for years and in whom the prostate is enormous. He does not advise prostatectomy in cases in "which the hardness of carcinoma has so affected the capsule that it can be detected with the finger."

The present number of the "Medical Annual" well maintains the high standard which has characterised its predecessors.

London Churches, Ancient and Modern. By T. F. BUMPUS. London: T. Werner Laurie. First Series. With 30 Plates. 1908. Pp. 422. Price 6*s.* net. Second Series. With 33 Plates. 1908. Pp. 402. Price 6*s.* net.

THERE are so many associations, historical and otherwise, attaching to the churches of London, and in a special degree to the ancient churches, that a book about them such as this, intelligently written and carefully compiled, cannot fail to be interesting. But of all the ancient churches in London perhaps the most interesting to the medical man is that of St. Bartholomew the Great, West Smithfield. For this magnificent fragment of Norman and Early English architecture is the sole remaining portion of the Priory which was founded by Rahere as an adjunct to the great hospital which he founded one or two years before. All that was left of the church after Henry VIII. and his creatures had had their way with it was luckily spared by the Great Fire, an event which destroyed many a notable building but which nevertheless effected a necessary clearance of an insanitary area which afforded ample scope for the ravages of the Plague. Rahere, the founder of the hospital and the Priory, was, like so many other great men, a curious mixture of the imaginative and practical qualities of mind. Having founded the hospital, he was led by a vision of St. Bartholomew to found the Priory as well, and for some 800 years the church and the hospital have stood as a monument of the charity of the citizens of London. Rahere's dream is the subject of one of the pictures painted by Hogarth (who was baptised in St. Bartholomew's) which he presented to the hospital.

Another old City church—Cripplegate—also has medical associations, for it is the successor of a church which, according to Camden, adjoined a hospital for lame people and was therefore dedicated to St. Giles, the patron of cripples; while another medical link between the present and the past is that at the suppression of the Hospital of St. John the Baptist in the Savoy the beds, bedding, and other furniture were given to Bridewell and St. Thomas's Hospitals.

Among minor items of medical interest is a justly appreciative notice of Mr. Robert Brett, the well-known Stoke Newington surgeon, who was so instrumental in promoting the building of the Haggerston churches. Mr. Brett was

churchwarden of St. Matthias's, Stoke Newington (one of the finest of Butterfield's churches), and another medical man, Dr. Belcher, was the first vicar of St. Faith's which was originally a daughter church of St. Matthias's. Mention is also made, in connexion with St. Michael's, Highgate, of the kindness of Mr. Gillman, a local surgeon, in sheltering the poet Coleridge under his roof, but we may remark, in passing, that the kind-hearted surgeon in so doing was only paying the same compliment to literature that Dr. Johnson was paying to medicine when he befriended in a similar manner a necessitous practitioner. The note about Oliver Goldsmith, in the description of the Temple, also reminds us that that erratic genius once practised medicine for a short time in Southwark. It is to be hoped, by the way, that his chambers in Brick-court will be spared the fate of the adjoining house which has just been condemned as an unsafe building.

But to the man who knows his London, as Besant knew it, every church—nay, every street—is crowded with memories either of some great name or some great event. Thus, St. Giles', Cripplegate, recalls Milton and Oliver Cromwell; All Hallows' Barking, Archbishop Laud and Bishop Fisher of Rochester; St. Olave's, Hart-street, Pepys; St. Andrew's, Holborn, Chatterton and Lord Beaconsfield; St. Clement Danes, Dr. Johnson; St. Dunstan in the West, Izaak Walton; Chelsea parish church, Sir Thomas More; and St. Anne's, Soho, Dr. Croft, the reputed composer of the noble psalm-tune, "St. Anne," which, by the way, is such a favourite in England that Bach's magnificent fugue in E flat is commonly, but erroneously, called the "St. Anne" fugue simply because it opens with the same notes as those that begin the English tune. By an interesting coincidence St. Anne's is nowadays famous for its *cultus* of Bach. There are besides many other churches with historical associations which we have no space to enumerate.

The disquisitions on the various architectural styles are skilfully written; and the author does full justice to the consummate genius of Wren and waxes excusably enthusiastic over his steeples which, both as to their individual beauty and their grouping, are priceless ornaments to the metropolis. He also severely criticises the so-called "restoration" of some of Wren's churches and he is very informative about the revived Gothic churches and their architects. The odds and ends of information, too, are instructive and sometimes amusing, and the particulars are brought up to date. The illustrations are very fine and the work altogether, either as a book of reference or as literature, merits the highest praise.

Guide to Diagnosis in Diseases of the Throat, Nose, and Ear. By DAN MCKENZIE, M.D., C.M. Glasg. London: Rebman. 1908. Pp. 294. Price 5*s.* net.

THIS small work is meant as an aid or guide to diagnosis in diseases of the throat, nose, and ear. There is also a chapter on notetaking and general semeiology, from which we learn amongst other things that "everyone has his own pet mirror" and that hand mirrors are "palmed off on unsuspecting and inexperienced men whenever possible." It may be wondered why the morality of the instrument maker is placed so low, indeed, why it is mentioned at all. Dr. McKenzie alludes to a method of estimating the relative patency of the nasal passages by the use of what he terms Wingrave's spiragraph; if for the sake of accuracy alone the credit of this simple contrivance belongs to Sandmann of Berlin who wrote on this matter in 1893.

Besides the main heads this little book contains a chapter on affections of the buccal cavity, which with affections of the pharynx and tonsils occupies 41 pages. As an example of the assistance afforded, speaking of diagnosis, we give that presented by Dr. McKenzie to his readers *apropos* of necrosis of the jaw: "The symptoms are those of abscess-formation, with persistent sinuses after the abscess is opened. Probing will reveal bare bone." And again in tumours of the hard palate a list is given of which some "may occur" and others are "usually due to extension." In diagnosing antral suppuration by means of the use of Lichtwitz's cannula Dr. McKenzie recommends blowing out the pus by means of a Politzer's bag. This might be a safe procedure in skilled hands but is much too liable to cause emphysema in the case of the unskilled.

This work should be of use and assistance to clinical assistants and post-graduate students who are studying diseases of the nose, throat, and ear, as affording good guidance in the investigation of patients, but it will be advisable for Dr. McKenzie to revise his next edition with great care.

LIBRARY TABLE.

A Text-book of the Practice of Medicine. By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College; Physician to the Medico-Chirurgical Hospital, Philadelphia. Illustrated. Eighth edition, thoroughly revised. London and Philadelphia: W. B. Saunders Company. 1907. Pp. 1317. Price 24*s.*—This work is intended to introduce the student to the present state of knowledge of the practice of medicine in general and of the diagnosis, differential diagnosis, and treatment of disease in particular. That the book has reached an eighth edition, although the first was only published in 1897, is sufficient proof that the efforts of the author have met with the success which he deserved. The present edition has been critically revised throughout with a view to bring it into consonance with the results of modern medical research. The main features and qualities which characterised the former issues have been preserved, the practical phases of diagnosis and treatment receiving especial attention. The animal parasitic diseases have been rearranged and grouped together. These affections have been thoroughly investigated during recent years and many important results have been achieved, more particularly in relation to prophylaxis. The revision of this section by Dr. Anders has necessitated the rewriting of the articles on ankylostomiasis, dracontiasis, trypanosomiasis, and beri-beri. New articles appear on parasitic infusoria and febrile tropical splenomegaly. Among other subjects newly discussed in this edition we notice aplastic anæmia, the use of the Roentgen rays in leukæmia, polycythæmia and cyanosis with splenic tumour, Stokes-Adams disease, Vincent's angina (which has escaped introduction into the index), abortive pneumonia, chronic appendicitis without preceding acute attacks, intestinal auto-intoxication, and senile dementia. The remarks on these conditions are for the most part very brief but nevertheless the observations on differential diagnosis and treatment are adequate. Throughout the work the differential diagnosis has in many instances been tabulated, a procedure which will be found of value for purposes of reference. This text-book is certainly a good one for both students and practitioners although it possesses no marked superiority over others published in America or in this country.

La Neurasthénie: les Vrais et les Faux Neurasthéniques. By Dr. BENI-BARDE. Paris: Masson et Cie. 1908. Pp. lxv.–435. Price 8 francs.—Many men write one or two medical books, and some write three or four, in a lifetime. But Dr. Beni-Barde has completed 13 books since 1866; and he proposes to write four others, of which the titles are given in the front of the present work. If the other books be as complete compendiums of current knowledge as the one under review the author must possess an unusual power of reading and assimilating the

thoughts of others. This work contains a summary of nearly all that is known about neurasthenia in France at the present time, but it makes only scanty reference to the views of contemporary German and English writers on the subject. Different examples of neurasthenia, numbering no fewer than 158, are considered in Chapters IV. to XV. In the final chapter there is an excellent summary of the views of past writers on neurasthenia. At the end of the work, in lieu of the usual "Table des Matières" found in French books, there is a summary of contents which runs to 65 pages, so that the reader may conveniently obtain almost all that he desires from its perusal. Abroad observers lean rather to the view that neurasthenia is a psychosis and they sometimes adopt the term "psychasthenia" to express the disease, although in reality this term only expresses the mental element of the neurasthenic state. The author of this work comes to the conclusion that "hydrotherapy and psychotherapy unite to form a therapeutic concord which must be considered the most beneficial and efficacious anti-neurasthenic treatment."

Egypt and How to See It, 1908. Illustrated by A. O. LAMPLOUGH. London: Ballantyne and Co. Pp. 208. Price 2*s.* 6*d.*—This is a handy little guide-book with coloured pictures which aims at indicating what is most worth seeing in Egypt and how it may be seen with the least expenditure of money and trouble. It is brightly written, erring occasionally on the side of exuberance, as in the description of the coaling at Port Said, which is described as "a very inferno of haste and efficiency." The book has useful appendices giving time-tables and other variable information, and a new edition will be published annually with this section corrected for each season. The illustrations are delicate examples of three-colour printing.

A Guide to Sick Nursing in the Tropics. By ANDREW DUNCAN, M.D., B.S. Lond., F.R.C.P. Lond., F.R.C.S. Eng., Lecturer on Tropical Diseases at Westminster Hospital Medical School and at the London School of Tropical Medicine. London: The Scientific Press, Limited. 1908. Pp. 162. Price 2*s.* 6*d.*—This little book fills a real gap in nursing literature and deserves a wide popularity amongst nurses working in tropical countries. It is apparent that its contents are frankly "lectures," and we think a little careful editing would increase their attractiveness, although this suggestion is made not in regard to what the author has to say but to his manner of saying it. Another criticism which some might make is that in several chapters the book tends to overrun its purpose and to become a guide to tropical medicine rather than tropical nursing, questions of etiology, symptomatology, and treatment being given more prominence than is received by actual nursing details. However, it is a hard matter to strike the *via media* in a work of this nature and the expositions of the etiology of various tropical infective diseases are extremely valuable, for they cannot fail to equip a thinking reader with an intelligent appreciation of the principles underlying the prophylactic measures which the author describes with clearness and authority. In these sections his enthusiasm for his subject is plainly manifest. We have found the instruction given throughout the lectures thoroughly trustworthy and have been especially impressed by the chapters on cholera, enteric fever, and malaria. Indeed, the book is well worthy the attention of a student "up for his final" in medicine. When he has mastered it thoroughly he will find himself well grounded in tropical medicine. The nurse who has done so will realise that the conditions of her work in the tropics are very different from those at home. Many little practical details are given with a view to her own comfort and safety no less than her patients'. Dr. Duncan has founded his book on a wide Indian experience but he includes African diseases in its scope. In an introductory chapter as to the nurse's "qualifications for the tropics" we are surprised that he has omitted to mention the advantages offered by membership of Lady Minto's Indian Nursing Association.

JOURNALS AND MAGAZINES.

The Bristol Medico-Chirurgical Journal.—In the March issue is published the fourth annual Long-Fox Lecture, delivered by Dr. Patrick Watson Williams, on the subject of Suppurative Disease in the Nose and Ear. Many useful diagrams are given illustrating operations on the nasal sinuses. Dr. D. S. Davies and Dr. I. Walker Hall write on typhoid-carriers and Mr. James Swain on operative interference in cancer of the pancreas: this is almost necessarily palliative and consists in some procedure of the nature of cholecystenterostomy for the relief of jaundice. Mr. C. Hamilton Whiteford records a case of successful treatment of spreading peritonitis by drainage, the Fowler position, and rectal instillation of saline solution; and Dr. David A. Alexander one of abdominal fibroma simulating splenomegaly.

The Birmingham Medical Review.—In the March number of this review Mr. Bernard J. Ward gives some statistics as to the immediate and remote results of suprapubic prostatectomy by Freyer's method. 107 cases form the basis of the report and the results are very satisfactory; the mortality of the operation, which definitely tends to fall as experience increases, may be put at about 10 per cent. The after-results are also excellent. Mr. F. Victor Milward writes on the diagnosis and pre-operative treatment of non-penetrating injuries of the abdomen and discusses the indications for laparotomy.

The Dublin Journal of Medical Science.—Two interesting papers on renal disease are published in the March number of this journal, one by Dr. J. Magee Finny on the prognosis and treatment of nephritis and the other by Dr. H. C. Earl on the pathology of this condition. Dr. Finny emphasises the great value of bleeding in some cases of uræmia. Mr. A. E. Wynne records two cases of nervous disease due to congenital syphilis, the manifestations being convulsions and paralysis, of paraplegic and hemiplegic type respectively. In the April number the Registrar General for Ireland, Sir Robert E. Matheson, gives an account of the Tuberculosis Exhibition in Dublin (1907) and of the lessons to be learned from it. Mr. W. J. Greer describes the microscopical appearances of the viscera in two cases of gastro-jejunostomy for non-malignant disease, the paper being illustrated by photo-micrographs. He concludes that "though it is possible that [as a result of the operation] there may be an arrest of the original disorder, there does not seem to be any return to normal histological structure." Dr. G. Allan Crowley discusses some points in the diagnosis of scarlet fever. He assigns the septic cases to the presence of staphylococcus pyogenes, not, as has been supposed by other observers, to that of the streptococcus.

The Edinburgh Medical Journal.—In the April issue Dr. L. C. Peel Ritchie narrates some observations on the use of inoculations of bacterial suspensions. He does not appear to lay much stress upon estimations of the opsonic or, as he prefers to call it, the phagocytic index, but recommends the employment of equal weights of the different bacteria as vaccines, proportionate to the doses of Koch's tuberculin usually injected. Mr. H. Alexis Thomson treats of diverticula of the alimentary tract, with especial reference to those resulting from accessory pancreatic rudiments, one of which is depicted. Dr. Dawson F. D. Turner writes on electrolysis in medicine and surgery, Dr. F. Parkes Weber on a case of angina pectoris with aortitis, probably due to syphilis, and Dr. Alexander Walker on the provision of sanatoriums for the curative treatment of pulmonary tuberculosis among the poorer classes.

New Inventions.

AN INK WRITING-POINT ATTACHMENT FOR DUDGEON'S SPHYGMOGRAPH.

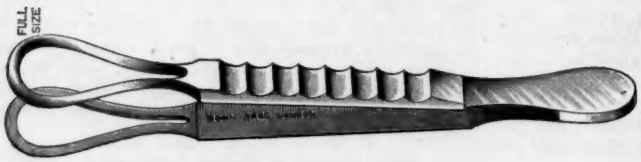
THIS simple little device for obtaining sphygmographic records in ink on a clean white paper may recommend itself to those who have found that the usual method is apt to prove rather a troublesome matter anywhere where the facilities for smoking the paper, varnishing it, and spreading it out to dry are less readily accessible than in hospital practice. It consists in a fine capillary glass tube drawn into the shape of the letter L, the longer limb of which fits on to the writing lever of a sphygmograph, whilst the shorter limb is drawn out to a fine point and serves as a writing point. Several such glass writing points can be carried in the case of the sphygmograph, together with a small bottle of writing fluid, so that the operator may have the choice on each occasion on which the sphygmograph is to be used of taking the tracing in ink on a white paper, or by the usual method on a smoked one. When the former method is to be employed all that is necessary is to select a glass writing point, thrust down its longer limb the end of the writing lever of the sphygmograph, moisten the writing point with a drop of ink, adjust the paper, and start the clockwork. The writing point, which sucks up by capillary force enough ink to write two or three tracings each six inches long, is most conveniently charged by applying to it a paint-brush wet with the ink just before starting the clockwork. After

A, Writing point. B, Writing lever.

taking the tracing it is wise to drain the writing point on to a piece of blotting-paper so as to avoid clogging of the point. By this method the tracings are taken as a black line at once, thus obviating any necessity of printing the records by photography for purposes of reproduction: it does away with the necessity for soot and varnish, for the tracings are dry as soon as they are written and can be carried away at once in the waistcoat pocket. These writing-points have been made for me from my pattern by Messrs. Down Bros., Limited, 21, St. Thomas's-street, London, S.E.

Oxford. J. W. SCOTT MACFIE.

AN IMPROVED TRACHOMA FORCEPS.



OF the two forms of forceps for the removal of trachomatous granules or "sago grains," those of Grady and Knapp, the former may be considered to cause somewhat less bruising but has the drawback, especially in unruly children, of occasionally catching in the eyelid. Messrs. Down Bros. have lately made me an improved pattern with closed ends, which gets over this difficulty with complete success.

Chepstow. J. CROPPER, M.D. Cantab.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on April 30th, Sir RICHARD DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The following gentlemen having passed the requisite examination were admitted Members of the College:—Robert Alexander Chisolm, M.A., M.B. Oxon.; James Clark, M.D. Aberd.; Thomas Bogie Hamilton, M.B. Edin.; Eardley Lancelot Holland, M.D. Lond., L.R.C.P. Lond.; James Mackenzie, M.D. Edin.; Alexander Manuel, M.B. Lond., L.R.C.P. Lond.; Richard John Morris, M.D. Durh., L.R.C.P. Lond.; and John Norman Walker, Captain, I.M.S., L.R.C.P. Lond.

Licences to practise physic were granted to 103 gentlemen who had passed the required examinations.

The PRESIDENT announced that he had received a letter from the treasurer of the Royal College of Physicians of Edinburgh announcing the death of Dr. Charles E. Underhill, President of that College. It was resolved that a letter should be addressed to the Fellows of that College condoling with them on the loss which they had sustained.

A report was received from the examiners for the Murchison scholarship, and the same was awarded to Edward Leslie Martyn Lobb, a student of Guy's Hospital. The recipient was congratulated by the PRESIDENT. The same examiners (Dr. S. J. SHARKEY and Dr. W. HALE WHITE) moved the following proposition:—

That a committee be appointed to consider by what means the competition for the Murchison scholarship may be increased.

The motion was carried and the following Fellows were appointed to form the committee: Dr. S. J. Sharkey, Dr. W. Hale White, Dr. Lauriston E. Shaw, Dr. H. P. Hawkins, and Dr. J. A. Ormerod.

The following Members were elected as Fellows of the College: Robert Charles Brown, M.B. Lond.; George Ogilvie, M.B. Edin.; Charles Henry Cattle, M.D. Lond.; John Elliott, M.D. Lond.; Guthrie Rankin, M.D. Glasg.; Theodore Fisher, M.D. Lond.; Robert James McLean Buchanan, M.D. Vict.; Arthur Francis Stabb, M.B. Camb.; William Henry Butter Stoddart, M.D. Lond.; Arthur Latham Ormerod, M.D. Oxon.; Walter Langdon Brown, M.D. Cantab.; Alfred Ernest Russell, M.D. Lond.; Reginald Cecil Bligh Wall, M.D. Oxon.; Thomas Wardrop Griffith, M.D. Aberd.; and Leonard Stanley Dudgeon.

The following communications were received: 1. From the secretary of the Royal College of Surgeons of England reporting proceedings of its Council on April 9th. 2. From the secretary of the Royal College of Surgeons in Ireland thanking the College for its letter and resolution of March 20th. 3. From the registrar of the University of Wales (new Faculty of Medicine) inviting the College to appoint a representative to serve as a member of the Medical Board. The invitation was accepted and it was left to the President to nominate a Fellow to act as a representative. 4. From the secretary of the Society of Arts, giving notice of the award of the Swiney Prize, jointly by the Society and the College, in January next, for the best published work on Medical Jurisprudence.

A report was received and adopted from the Pharmacopœia Committee, which was appointed on Jan. 30th, 1908, in response to an invitation to the College from the President of the General Medical Council to assist in the revision of the British Pharmacopœia of 1898.

The PRESIDENT then dissolved the Comitia.

VICTORIA UNIVERSITY OF MANCHESTER.—The council of the University having decided on the appointment of a second professor in the department of medicine, one of the chairs will be devoted to clinical medicine and the other to systematic medicine. Dr. Graham Steell, now professor of medicine in the University and senior physician in the Royal Infirmary, will hold the chair of clinical medicine, and Dr. George R. Murray, who until recently held the Heath professorship of comparative pathology in the University of Durham, has been appointed professor of systematic medicine. Under the agreement entered into between the University and the Royal Infirmary Dr. Murray becomes on his appointment a member of the honorary staff of the Royal Infirmary. It is expected that he will undertake the duties of the chair in the University at the beginning of next session and at the infirmary when the new buildings are opened.

THE LANCET.

LONDON: SATURDAY, MAY 9, 1908.

General Practitioners and Consultants.

DURING the past few weeks a discussion has been going on in the columns of THE LANCET on the question of the division of the operation fee between the operator and the general practitioner. It has been recognised widely that the fee of the general practitioner who takes a patient to a consultant for an operation is altogether out of proportion to the fee that the consultant charges for the operation which he performs. Inasmuch as the functions performed by the two differ greatly in degree a great disparity is not unreasonable; but it is held by many medical men in general practice that the large amount of the fee charged for the operation may prove, and in fact often proves, a great strain on the finances of the patient, with the result that the fees already owing to the general practitioner cannot be paid. We venture to think that there is a modicum of basis for this complaint and any satisfactory arrangement which could be made in the direction of equalising the amount received by the general practitioner and by the consultant would be deserving of adoption, but the arrangement must be in full accord with the ethics of the profession.

There is a modern practice, happily little heard of in this country, which is known by the name of dichotomy. The word, indeed, is an old word and has several scientific applications, but so far as we are aware the recent special medical meaning has not yet found its way into the dictionaries. This special application of the word arose in France where the practice to which it is applied also appears to have originated. By dichotomy in its medical sense is meant a division of the consultant's fee between the general practitioner and the consultant. The general practitioner takes or sends a patient to a consultant who advises the performance of an operation for which the operator charges, let us suppose, a hundred guineas. The patient agrees, undergoes the operation, and pays the fee. Immediately on receipt of the fee the surgeon sends a cheque for half the amount to the general practitioner who sent the case to him. Sometimes the fee is not divided equally but the exact proportions in which the division is made do not affect the matter. The patient, who pays the fee, knows nothing of this division; he imagines that the whole of the operator's fee is for the operator and the fact that the general practitioner who introduced him to the consultant gets a portion of the fee for the operation is utterly unknown to him. The share of the fee given to the general practitioner is not given for assistance at the operation or for after-treatment but wholly and solely for the introduction of the case. This is dichotomy pure and simple, and if we may believe reports it is a practice very widespread on the continent of Europe and in the United States, and it is rumoured that it is by no means unknown in this country. The essence of dichotomy is that the division of the fee is not known to the patient and this absence of knowledge on the part of the patient would suffice to bring the practice within the scope of the Secret Commissions Act. The influence of dichotomy has been very harmful; it appears to be certain that its tendency is to lead to the performance of unnecessary operations, however excusable it may have been in its origin. Dichotomy can in no wise be defended. It is therefore satisfactory that dichotomy has been condemned in those countries where it is especially rife and it is to be hoped that it will not spread here. We cannot but look upon dichotomy as very much on a level with the receiving of fees from undertakers or instrument makers who have been recommended.

A method has been suggested by Dr. F. W. FORBES-ROSS in the correspondence in our columns which is certainly less objectionable than dichotomy, from which it differs in several important respects. By this method the fee for the operation is divided into three parts, the operator takes two-thirds and the general practitioner takes the remaining third; and in return for this share of the fee he assists at the operation and undertakes a portion, perhaps the major portion, of the after-treatment. So far there is little to distinguish the method from dichotomy, except that certain assistance is rendered in return for the fee, but, and this is most important, the patient is informed of the arrangement made, and this very fact of the knowledge of the patient of the intended division of the fee certainly removes the arrangement from the category of dichotomy. There is a further point on which Dr. FORBES-ROSS insists, and that is that if only a part of the fee can be paid at the time the consultant and the general practitioner must share in the same proportion as if the whole fee had been paid. There is, however, this to be said, as pointed out by Mr. EDWARD DEANESLY, that this third of the fee should be paid directly to the general practitioner by the patient and it should not be paid by the operator after he has received his fee. If the surgeon pays the third to the general practitioner there is always the risk of the transaction not being made clear to the mind of the patient and then the practice falls into the same group as dichotomy. There is another method which is widely adopted and it is one which appears to us to have many points in its favour. The patient is often anxious to know what is the total amount of the expense to which he will be put, and the general practitioner, after consulting the operator, mentions a fee which is to include the operator's fee, his own fee, and the fee of the anæsthetist. The general practitioner receives the fee from the patient and hands to the operator the portion payable for the operation. This is often more satisfactory for the patient and it appears to us to be perfectly ethical. It has certainly nothing to do with dichotomy. Whatever arrangements are made it is essential, as we have already said, that the patient should be informed if any division of fees takes place. The general practitioner is generally in a position to know the amount of fee which will not be oppressive to the patient and yet which will be sufficient to remunerate those who perform and assist at the operation and in the after-treatment.

Scopolamine as an Analgesic.

THIS substance either alone or combined with morphine for some years has been adopted for anæsthetic purposes in several of the continental clinics. Some surgeons have used the method as a means of lessening the quantity of the general anæsthetic which they give to the patient at the time when the actual operation is in progress. Many have tried scopolamine-morphine anæsthesia for surgical work but have found it uncertain and at times insufficient when severe operations had to be undertaken. In obstetric practice, however, analgesia rather than anæsthesia is commonly aimed at and GAUSS has published a number of cases in which the scopolamine-morphine combination has been adopted by him with marked success. Dr. W. AYRES, in a paper read before the Stourbridge District Medical Society, describes the method and the condition which GAUSS has designated "dämmerschlaf" (twilight sleep), and which is characterised by insensibility to painful impressions and complete loss of memory of all that has occurred while the state has lasted. He points out that there have been a number of fatalities under scopolamine and morphine and these he has investigated, coming to the conclusion that they have arisen through the use of untrustworthy drugs.

Commercial scopolamine frequently contains impurities, such as atroscine, a body the therapeutic action of which is not the same as scopolamine. It is also important to remember that scopolamine is obtained from various plants, and although it has not been actually proved to be so it is possible that the samples vary in action according to the source from which they are derived. If this be so it is probably due to the presence of varying quantities of other alkaloids, the commercial scopolamine being in fact a mixture of alkaloids giving varying results. Although therapeutically quite distinct the alkaloidal bodies scopolamine, hyoscine, cocaine, and atropine are chemical isomers possessing the empirical formula $C_{17}H_{23}NO_3$. KOBERT asserted that scopolamine and hyoscine exert practically the same physiological action, but Dr. AYRES points out that the scopolamine derived from scopolia is a mixture of hyoscine and atroscine, and is obtainable in greater quantity from this source than is hyoscine from hyoscyamus. Hence the greater cheapness of the scopolia derivative. Although hyoscine and scopolamine are chemically identical it does not follow even when they are pure that they will give similar physiological effects, and when impure their results therapeutically may be quite discordant.

Dr. AYRES insists upon various points in GAUSS'S technique as essential if success is to be obtained and the woman in labour is to fall into the semi-unconscious state which besides affording analgesia insures no memory of pain and complete freedom from the hysterical state which at times is liable to be evinced in parturition. Two separate sterile solutions are used: a 0·03 per cent. aqueous solution of crystalline scopolamine hydrobromide and a 1 per cent. aqueous solution of morphine. The first injection is given when the pains are becoming severe and frequent and should consist of from 1 to 1·5 cubic centimetres of scopolamine solution (= 0·30 to 0·45 milligramme), with 1 cubic centimetre of morphine (= 0·01 milligramme). In half an hour the patient is shown some object—e.g., a pair of scissors; and again after another half an hour she is questioned as to whether she remembers the scissors. If she does not it is assumed that she was in the state of "dämmerschlaf" when shown the object and no further injection is needed until future testing made in each case with a different object to avoid accumulation of sense impressions reveals that the "twilight sleep" is passing off. Before each manipulation the patient is tested and fresh injections are given as the indications appear to warrant them. The subsequent injections consist of 0·5 cubic centimetre or 1 cubic centimetre of the scopolamine solution according as the 0·5 cubic centimetre does or does not produce the "dämmerschlaf" persisting for two hours. GAUSS does not repeat the morphine, since it interferes with the expulsive labour pains. As a general rule, four injections made at the interval of an hour will suffice, although a two or even four hours' interval will prove sufficient to maintain the "dämmerschlaf" until the birth of the child. The total amount of the drug used may be accepted as upon an average 0·75 milligramme, although as little as 0·3 milligramme and as much as 1·2 milligrammes may be required. Great stress is laid upon avoiding all noises (GAUSS stops the patient's ears to prevent the infant's cries reaching her), upon the use of fresh solutions, and upon obtaining the "dämmerschlaf" state by small doses and slowly. Dr. AYRES quoting GAUSS asserts that the usual causes of failure are: (1) forcing the effect by too large and oft-repeated doses which give rise to weak pains, rapid and irregular pulse, hallucinations, excitement, failure of the expulsive power of the abdominal muscles, and asphyxiation of the fœtus; (2) too little time before the birth for preliminary injections; (3) beginning too early in the labour—the pains should return every five or six minutes and last for 30 seconds before the first injection is made; and (4) being induced by the patient's cries to repeat the injections instead of being guided entirely by the memory test.

It has been asserted that this method delays labour but GAUSS'S experience does not appear to bear out this contention. Dr. AYRES seems to be satisfied that provided morphine is given in a sufficiently minute dose neither the uterine fibres nor the abdominal muscles become atonic. The effect upon the mother is stated to be, upon the whole, satisfactory, although the action of scopolamine upon the heart is one with which the accoucheur may have to reckon. To the child, however, more serious results occasionally follow unless the most heedful watch is kept upon the infant throughout the labour and for some days afterwards, since the "dämmerschlaf" of the mother finds its counterpart in a peculiar intoxication in the child. The breathing is extremely slow, cyanosis may appear, and the infant's heart's action is correspondingly hampered. However, as GAUSS'S figures show, if the child is properly watched and measures are taken to insure due lung expansion, the mortality is not unduly great. It is unwise, we are told, to adopt GAUSS'S method in large maternity hospitals or private practice unless there is ample help at hand to insure attention being given both to the mother and to the infant. Dr. AYRES referred also to Dr. ABBOTT of Chicago

who has employed hyoscine hydrobromide, morphine hydrobromide and cactin. We have noticed this combination and need only add that Dr. ABBOTT'S experience has led him to form a favourable opinion of it in his surgical practice.

Nursing in the Paris Hospitals.

THE question of efficient nursing in the Paris and in the French hospitals generally has been from time immemorial complicated by religious disputation. It is quite a mistake to imagine that it is only under the Republican form of government that the idea of secularising the hospitals arose. So far back as the year 1505 the Parliament issued a decree dated the 2nd of May of that year placing the oldest of the Paris hospitals, the Hôtel Dieu, in the hands of a commission of eight lay administrators. This was done because of the disorder that prevailed; no accounts were kept and scandals arose between the monks and the nuns who used to manage the hospital. Again, under LOUIS XIV., and by order of the King, the management of the Salpêtrière, Bicêtre, and Pitié Hospitals was taken away from the priests and handed over to secular officials. Then under LOUIS XVIII., at a period of monarchical and clerical reaction, by the decree of June 28th, 1819, secular dispensers were appointed instead of the sisters or nuns in some of the pharmacies and in the management and keeping of accounts (*économat*) of the Paris hospitals of La Charité, Saint-Antoine, Enfants Malades, Enfants Trouvés, Necker, and Cochin. In 1833 the Sœurs de la Sagesse were replaced by secular nurses at l'Institution Sainte-Périne, then at the Maison de Santé, the Hôpital des Cliniques, du Midi, and of La Maternité. Therefore, leaving out of consideration other countries such as Germany, Great Britain, the United States, and even Portugal and Russia, the principle of the secularisation of hospitals was admitted, and to some extent practised, before the Republican form of government was definitely established in France. There is consequently no reason why this question should not be decided on its own merits without introducing political prejudices and animosities. If it is wrong, then all political *régimes* have a share in the wrong.

The French law on associations, arising out of the DREYFUS affair, has, however, greatly accelerated the process of secularisation and, of course, the present period of transition occasions many complaints. In another column Dr. J. DARDEL of Paris gives voice to some of the lamentations that are the inevitable accompaniment of all changes, even if they be beneficent. Undoubtedly the present state of affairs lends itself to criticism. Dr. DARDEL justly complains of the life led by the nurses, of their dirty, dismal dormitories, often situated in garrets, the scanty furniture, and the want of air and comfort. If he will turn to THE LANCET of June 13th, 1891, p. 1332, he will find a full confirmation of his assertions. Our Special Sanitary Commissioner then supplied us with an account of the insanitary condition of the Hôpital de la Pitié and M. D. WIDHOPFF, well known for his art contributions to the illustrated press, drew for us pictures of the nurses' garret dormitories. In denouncing this state of affairs our commissioner then said that "it was justly observed by several persons at the hospital that prisoners in a State gaol have much better accommodation than the free and trained professional nurses of the Hôpital de la Pitié." To this, however, we are pleased to add that it was subsequently decided to rebuild this hospital; indeed, we received thanks at the time for having helped to awaken public opinion on the matter and having aided in bringing about this much-needed change. Of course, while they are so badly lodged and cared for it will be difficult to secure the services of a high class of nurses. But the position is improving and many of the present evils are due to the old system which is now so rapidly disappearing. We are asked, however, what object Paris had in effecting "so sweeping a reform" which Dr. DARDEL qualifies as "merely a political move." The object was fully described in THE LANCET of Dec. 20th, 1890, p. 1355. We then quoted the decision of the Paris Municipal Council adopted in 1877, which stated that its object was:—

1. To secure for the hospitals a staff of nurses who should be more competent, better educated, and who would become good superintendents to control wards in the stead of the sisters belonging to the religious orders. 2. To afford inhabitants of the towns who wish to exercise the profession of nursing means of obtaining thorough professional instruction, so that they might take the place in private families of the sisters who act as nurses. 3. To enable mothers of families to obtain the knowledge necessary for nursing the sick, so that they might skilfully second the efforts of the doctor whenever any of their relatives fell ill.

In keeping with this resolution the first school for training nurses was opened at the Salpêtrière on April 1st, 1878, and another on May 20th at Bicêtre. In 1880 a third school was inaugurated at La Pitié. We gave at the time a full account of the curriculum. To-day, however, the complaint is made that though the technical instruction has borne fruit only a low class of nurses have been recruited whose morality and probity are not above reproach. This is true to some extent, though there is a political temptation to exaggerate the complaints. In any case this grievance is in a large measure due to the system that prevailed when the sisters were serving in the Paris hospitals. Much has been said about the wonderful devotion of these sisters and all the unpleasant and hard work which they did in personally tending the sick. This likewise was, to a certain extent, mere romancing for a political purpose. As we pointed out at the time in 1878, before the present secularisation of the hospitals commenced, there were only 485 sisters serving in the Paris hospitals, and there were already 279 secular head nurses or superintendents. The real trouble arose from the fact that these sisters did not change the bed-clothes, did not dress wounds, did not wash and see to the personal comforts of the patients; all the really hard and unpleasant work was left to the 2207 secular under-nurses or servants. The sisters did organise the partition of food, superintend linen, and maintain discipline in the wards. The sisters, in a word, were the matrons, and by monopolising the best positions on the nursing staff destroyed the spirit of emulation and prevented higher-class candidates presenting themselves for this service. Therefore the most incompetent of provincials who could not even speak French served in the hospitals. They were inadequately paid and left as soon as they had acquired enough experience to get better wages elsewhere. But to-day the salaries even of the mere scrubbers and scullery-maids have been raised and attempts are made to improve

the social standing and position of those who seek to become trained nurses. Much remains to be done yet. Quite recently[1] our Paris correspondent described the inauguration of a building with two wings at the Salpêtrière, where 75 pupil nurses will each have a private room and live in decent comfort. At the end of two years' training, practical and theoretical, they will, on passing the examinations, be given board, lodging, a uniform like that of English hospital nurses, and £24 a year. These young women will be under the care of a matron, will not be allowed to go out except with members of their own families, and the respectability and moral training which the sisters were supposed to give will not be wanting in this new nurses' college. But, of course, many more such establishments are needed before the evil repute in which the profession of nursing had fallen in France is fully removed. In time it will be realised that sisters no longer block the way to the highest posts in the nursing profession. In time better housing, better uniforms, and better pay will raise the dignity of the calling, and more severe discipline could then be enforced in regard to personal conduct and especially in respect to the acceptance of gratuities. In the olden days when a patient was left to the mercies of some uncouth country girl who was only paid 12*s.* a month wages the friends of the patient naturally offered small sums of money to these servants so that they might try to be more gentle and attentive. On the other hand, the higher and more educated candidates who desired to qualify as trained nurses objected to the society of the poor uneducated women who were willing to do all the dirty work for so little pay. But this state of affairs, which existed when the sisters were supreme, is now altered though the evil reputation which it engendered does not fade away so rapidly. Still, a better time is coming and the evils surviving to-day are less than those that prevailed yesterday.

Annotations.

"Ne quid nimis."

THE CERTIFICATION OF OPTICIANS.

THE Worshipful Company of Spectaclemakers has recently published a syllabus of the subjects upon which those who are desirous of obtaining their certificate of competence in optical work shall be examined. The company is by no means of recent institution. It received a charter from Charles I. in 1629, but was in existence long before that date. The records which were formerly in its possession were probably destroyed in the Great Fire of London. It has a considerable number of members but its total corporate income is only about £1200 a year. The company has a master and wardens with eight assistants, a clerk and an assistant clerk, an interim trade council, and a board of examiners composed of Mr. W. H. E. Thornthwaite, Dr. R. T. Glazebrook, D.Sc., F.R.S., Dr. G. Lindsay Johnson, Dr. Mullineux Walmsley, D.Sc., F.R.S.E., Dr. C. V. Drysdale, D.Sc., and Mr. J. T. Gradon, M.A. Oxon. The company holds three examinations: the first is the preliminary, the second is the final examination in visual optics and sight testing, and the third is the final examination in advanced optics and scientific instruments. The preliminary examination consists of five sections and includes a written examination in arithmetic, algebra, geometry, and trigonometry, a *viva-voce* examination in general optics embracing such subjects as light, the laws of reflection and refraction, prisms, the use of the spectrometer, the various forms of lenses, the principle of the ophthalmoscope, optometer, ophthalmometer, perimeter, phorometer, and the mode of using test type and astigmatic chart, a practical examination in the optical analysis of lenses, the marking of edging and of other lenses for setting, centering, and decentering, and, lastly, a practical examination in frame fitting and measurements and in the reading and filling ophthalmic surgeon's prescriptions. Every candidate must have attained the age of 18 years before presenting himself for this examination and must pass it before proceeding to one or other of the two final examinations, for each of which the company grants a diploma. One of these final examinations is upon advanced optics and scientific instruments and the candidate is required to possess a thorough knowledge of the principles of construction of various optical and meteorological instruments such as the camera, microscope, telescope, and barometer, the examination being both written and *viva voce*. Up to this point we can only express our admiration of the excellence and completeness of the education which the candidate must have undergone if the answers to questions on all these subjects are maintained at a high level. We should have thought that there was enough in these multifarious departments of knowledge to engross the faculties of the majority of the future spectacle-makers. The second final examination for which the company grants a diploma touches more debateable ground. The title of this examination is "final examination in visual optics and sight testing." It consists of three sections: a *viva-voce* examination in visual optics, a written examination in visual optics, and a practical examination in the adaptation of lenses to correct errors of vision. On examining the syllabus of the requirements of the candidates we find that they are in the first place expected to answer questions on lenses, prisms, and frames, to which no exception can be taken. If the optician is to supply lenses ordered by the ophthalmic surgeon he must be familiar with the various forms and combinations as well as with the mode in which they should be mounted. Next, a knowledge of the general structure of the human eye is demanded with an explanation of cardinal points, curvatures and refraction indices of the media, constants and dimensions of the schematic and reduced eyes, and of the angles α and γ, and the identification of parts of the eye in models and charts. All this may be conceded as part of the education of a highly educated optician. The next paragraphs in the syllabus are those to which we demur. We give them in full, and questions on them could, we submit, only be satisfactorily answered by a man who had gone through the ordinary curriculum for a medical degree. "Static and dynamic refraction of the eye. Accommodation and convergence. The movements of the eyeball and muscles employed. The near and far points. The range and amplitude of accommodation and convergence. The course of light through the media of the eye alone and modified by spherical and cylindrical lenses and prisms. Emmetropia, hypermetropia, myopia, astigmatism, anisometropia, aphakia, presbyopia, asthenopia, amblyopia, orthophoria, heterophoria, strabismus, diplopia. The fields of vision and fixation. Stereoscopy. Chromatism of the eyes—tests for the same. Colour vision and blindness." In addition the candidate must be familiar with the ordinary instruments in common use for determining the refraction and muscular balance of the eyes; the optometer, ophthalmoscope, ophthalmometer, phorometer, rotatory prism, and other muscle-testing appliances. In the *viva-voce* examination a prominent place is given to *muscle testing*. Our contention is that this final

[1] See THE LANCET, Jan. 25th, 1908, p. 267.

examination covers ground that does not belong to spectacle-makers, however highly educated they may be; that it demands far more, and a different kind of, knowledge than can be obtained from books or than can be deduced from the construction or properties of instruments. Questions put upon this syllabus must either be answered in a very loose and perfunctory manner, in which case the knowledge is useless, or if replied to satisfactorily the candidate is fitted for a medical degree and is endeavouring to evade the other branches of a medical examination and to enter the ranks of the medical profession surreptitiously. Our advice, in view of future difficulties and complications, is that a large portion of the syllabus for the final examination in visual optics and sight-testing should undergo revision and that certain subjects should be withdrawn. The subjects of examination as here laid down if thoroughly mastered would be creditable to a wrangler on the theoretical side and would far and away outstrip him in the mechanical aspect of optical science.

INFANT MORTALITY IN ENGLAND AND WALES, 1907.

IN connexion with the awakening of public attention to the neglect and waste of infant life in the United Kingdom it is satisfactory to note that the rate of infant mortality in England and Wales during 1907 did not exceed 118 per 1000 births registered. This rate was considerably below the rate recorded in any previous year since the commencement of civil registration in 1837. The nearest approach to so low a rate of infant mortality was 128 per 1000 in 1905. There has, moreover, been a marked decline in the English rate of infant mortality since the beginning of the present century. During the ten years 1891–1901 the mean proportion of deaths under one year to births was equal to 154 per 1000, whereas the mean proportion fell to 134 per 1000 in the seven years 1901–07. There is great difficulty in determining how much of this decline of infant mortality may be attributed to increased care of infant life and to more effective sanitary supervision, and how much may be due to recent favourable meteorological conditions—to lower summer temperatures or to more frequent summer rainfall. It appears that the mean temperature at Greenwich during the summer quarters of the ten years 1891–1900 was 61·9° F. and that the mean annual amount of rain measured during the same quarters was 6·1 inches on an average of 39 days; while in the summer quarters of the last seven years (1901–07) the mean temperature did not exceed 60·9°, and the mean rainfall was 5·8 inches measured on 34 days. Thus an average deficiency of 1·0° in the mean summer temperature during the last seven years has been accompanied by a slight decrease of rainfall, on an average of somewhat fewer days. There appears, therefore, to be no sufficient reason for attributing any considerable proportion of the recent decline of infant mortality in England and Wales to exceptionally favourable meteorological conditions during the last seven summers. The satisfactory fact remains that the rate of infant mortality in England and Wales during last year did not exceed 118 per 1000, was far the lowest rate on record, and showed a decrease of 20·3 per cent. upon the mean rate in the ten preceding years, 1897–1906. Having regard to the recent legislation for facilitating the early notification of births to sanitary authorities, it is interesting to note that in Huddersfield, under the influence of the special system of birth notification, authorised by a local Act, and of exceptionally energetic action by the local sanitary authority, the rate of infant mortality within the borough declined to 97 per 1000 births, and showed a decrease of 28·1 per cent. upon the mean rate in the ten preceding years, against an average decrease of 20·3 per cent. on the whole of England and Wales. This naturally raises the interesting question as to the proportion of the decrease of infant mortality in Huddersfield during last year that may be attributed to the prompt notification of births to the medical officer of health and to the facilities thus afforded for promoting increased care of infant life.

HUMAN INFECTION FROM BOVINE TUBERCULOSIS.

IN his annual report for the year 1907 Dr. J. P. Watt, the medical officer of health of the county of Aberdeen, makes reference to two cases of tuberculous meningitis, which from their bearing on the question of the possibility of conveyance of bovine tuberculosis to the human subject through the infected milk of a cow and from the exhaustive examination carried out by Dr. J. Adams of the Pathological Department of the University in connexion with them appear to be of special interest. Attention was directed to them through a suspicion arising in the mind of the medical attendant as to the second case being one of cerebro-spinal fever. The cases occurred in the children of a farm servant who in May, 1906, had gone to a small farm in the country, which farm was occupied by the tenant only in summer and was managed by a grieve and his wife. This man's family consisted of three girls, aged nine, six, and four years. The milk was obtained from a cow which was the only one on the farm and which had been there for about four years. The cow had a calf but no suspicion seems to have attached to this. The eldest girl died on Jan. 7th, 1907, after an illness lasting three weeks with symptoms of tuberculous meningitis. The youngest was taken ill in the beginning of March and died on the 18th with similar symptoms. As cerebro-spinal fever had by this time broken out in the county it was thought advisable to verify the diagnosis by a post-mortem exanination. Tuberculous meningitis was found and a caseous gland in the mesentery. The cerebro-spinal fluid was drawn off aseptically and from it a pure culture of the tubercle bacillus was indirectly obtained. Clinical examination of the cow revealed a nodular mass on one of the hind-quarters of the udder, and the milk itself was found to contain tubercle bacilli. The cow was subsequently killed and a post-mortem examination was made. Extensive tuberculosis was found, especially in the pleura, peritoneum, glands, and udder. From the milk and glands pure cultures of the bacillus were obtained. The bacilli from these and from the cerebro-spinal fluid of the child were then compared and from their microscopical, cultural, and pathogenic characters the opinion formed was that they were both of the bovine type. No family history of tuberculosis was traced either on the father's or the mother's side.

THE RELATION OF SUICIDE TO SEXUAL FUNCTION IN WOMEN.

IN the *Annales Médico-Psychologiques* for March and April of this year Dr. Alexander Pilcz, in a paper discussing the diseased conditions met with in the post-mortem examination of the bodies of persons who have committed suicide, brings forward some interesting facts illustrating the influence of the sexual life on the development of suicidal impulse in women. From the records of the Medico-Legal Institute in connexion with the University of Vienna he has obtained detailed information with regard to 256 cases of suicide by women within the child-bearing period. In 51 of these cases (19·2 per cent. of the series) the women were pregnant, and Dr. Pilcz remarks that this figure is probably an under-estimate, for he has excluded from his list of suicides several doubtful cases in which pregnant women died from phosphorus poisoning; this drug is in popular repute in Vienna as a means of procuring abortion, and most

of the deaths from it are doubtless due to its use for this purpose, but it is highly probable that in some of the instances it may have been taken with suicidal intent. The exact stage of pregnancy was noted in 47 cases, 15 falling in the first month, 7 in the second, 7 in the third, 8 in the fourth, 2 in the fifth, 4 in the sixth, and the remaining 4 in the ninth month, so that nearly 60 per cent. of the suicides occurred in the first four months of gestation. This result is, of course, in accord with what has been observed regarding other disturbances of nervous function which are notoriously more frequent and more severe in the earlier than in the later months of pregnancy. Of the cases of suicide by women within the period of active sexual life 36 per cent. occurred at the time of menstruation, this being almost exactly the same proportion as was found by Heller in his smaller series of cases.[1] Dr. Pilcz further ascertained that in two-thirds of the cases occurring during menstruation the cycle was in its initial phase; and it may be observed in this connexion that a similar relation obtains in attempts to commit suicide, which are specially prone to occur at the premenstrual epoch. In 322 cases in which the records gave sufficient information on the point, 71 (21·73 per cent.) were found to present morbid conditions of the genital organs: gonorrhœa and uterine fibroids were the forms of disease chiefly met with.

APRIL'S ABNORMAL WEATHER.

THE appended figures show, in part, the extraordinary weather of last month but they fail to show the abnormal lowness of the temperature for nearly a week towards the end, neither do they differentiate between the measurements of rain and snow. They show enough, however, to prove that the weather was very cold for the time of the year and also that in most localities, especially in London and central and south-eastern England, the divergence from the average during the daytime was greater than at night. During the extra cold period that set in about the 20th the temperature of the afternoons was lower than during a normal afternoon in January in many parts of the kingdom, while in some parts of Scotland and the north-east of England the frost of the nights was more severe than any experienced in those regions so late in the spring since the establishment of the Meteorological Office more than 40 years ago, and in some places more severe than any frost of the past winter. Minimum readings below 20° by the screened thermometer were registered over a very wide area, while at Braemar there was a reading of 10° in the screen and one as low as 4° on the grass. Snow is, of course, often experienced in slight fleeting showers in April in one or more parts of the country and there are records of heavy falls both in the north and south quite late in the month. There is, however, no authentic record of such an abnormal quantity of the wintry element over such a large area of England so late in any April of the past. Had the snow been dry and light instead of wet and heavy, and had it fallen on a dry instead of on a wet soil it would have had an average depth of about two feet over many hundred square miles of the southern half of England. The remarkably sudden change from winter to summer that surprised most parts of England as soon as April had given place to May was almost, if not quite, as abnormal as the preceding cold. Within a week of temperatures lower than those of an average mid-winter, London and the inland parts of England generally were called upon to endure a heat greater than that of an average July and August. In London the whole of the three summer months last year gave but four warmer days than May 1st. The official maximum temperature registered in St. James's Park on May 1st was 75° F. and that on the following day 74°. But just as the human organism was beginning to grow accustomed to summer heat the thermometer went down with a rush to the level of March and the hot sunshine gave place to heavy rains and cold winds.

—	Temperature.					Rainfall.				Sunshine.	
	Mean maximum.	Difference from average.	Mean minimum.	Difference from average.	Mean temperature for month.	Difference from average.	Days with rain.	Total fall.	Difference from average.	Number of hours of sunshine.	Difference from average.
	°	°	°	°	°	°	*	Ins.	Ins.		Hrs.
Nairn...	48	−4	34	−3	41·2	−2·9	18	1·09	−0·18	136	†
Aberdeen... ...	47	−2	36	−2	41·7	−2·1	17	1·83	−0·26	154	− 1
N. Shields ...	47	−3	35	−3	41·0	−3·2	19	2·63	+1·04	†	†
Scarborough ...	49	−1	39	0	43·6	−1·1	14	2·05	+0·28	127	−19
Yarmouth ...	48	−2	38	−2	42·9	−1·9	17	2·59	+0·96	139	†
Margate	48	−5	40	−1	43·9	−3·0	17	1·60	+0·14	139	−17
Folkestone ...	48	−4	38	−3	43·0	−3·8	12	1·15	†	169	†
Brighton	51	−3	38	−3	44·5	−2·1	14	1·82	+0·13	166	− 5
Bournemouth...	53	†	37	†	45·1	†	12	2·68	†	182	†
Torquay	54	†	40	†	47·5	−0·7	14	2·47	+0·12	169	−12
Liverpool	49	−4	38	−2	43·4	−3·2	14	3·38	+1·81	144	†
Manchester ...	51	−1	38	0	44·3	−1·2	15	1·58	−0·48	102	†
Birmingham ...	50	−3	36	−3	42·9	−2·8	15	2·37	+0·50	88	−36
Nottingham ...	49	−5	36	−2	42·5	−3·9	19	2·07	+0·40	117	†
Harrogate ...	48	−3	35	−2	41·4	−2·8	22	2·82	+0·72	121	−39
Bath	52	−3	37	−3	44·5	−1·6	14	2·35	+1·74	158	+16
London	51	−6	39	−1	44·9	−3·5	17	1·98	+0·33	128	+15
Birr Castle (Ireland)	52	−3	35	−4	43·5	−3·1	19	1·82	−0·28	159	+7

* Days with at least 0·01 inch. † No trustworthy average.

ANIMATED PHOTOGRAPHY IN NATURAL COLOURS.

THE kinematograph is now universally recognised as a means not only of amusement but of instruction. We need only refer, for instance, to the article by Dr. H. Campbell Thomson which appeared recently in our columns.[1] Hitherto of course, the reproduction of any colour in a kinematograph projection has been impossible except by the laborious method of hand-colouring the films, and as each picture on the film is only of about the size of a postage-stamp it is obvious that to hand-colour the photograph of a carpet or of a highly coloured insect or bird by hand upon this scale is impossible. An invention has now been brought forward by Mr. G. Albert Smith, F.R.A.S., for reproducing in natural colours photographed objects upon a screen, and a demonstration was given at Urbanora House, Wardour-street, on May 1st. Mr. Albert Smith in his interesting inaugural address gave a rough idea of the theory of his system in the following words:—

> When I show you a wax phonograph or gramaphone "record" and observe that it is a band of music or the voice of a singer, you are aware that it is in reality an engraven record of the complex sound-waves set in motion by these performances, and you know that when the wax tablet or cylinder is placed in a suitable machine these sound-waves can be repeated and the original music reproduced. In the same way, when I show you a small roll of kinematograph film bearing, say, 5000 little photographs, these photographs having *no trace of colour* about them, you are to understand that they carry within themselves, in their long range of tones and half-tones so to speak, a record of the colour-waves received by the lens when the picture was taken, and when this film is run through a bioscope projector fitted with the proper attachment the recorded "colour-waves" are again set in motion and the scene is reproduced to our eyes in its proper colours.

The principle, as we understand it, is as follows. First of all, a film is used which is rendered as sensitive to red,

[1] "Zur Lehre von Selbstmord," Münchener Medizinische Wochenschrift, 1900, p. 1653.

[1] THE LANCET, Jan. 4th, 1908, p. 12.

yellow, or green rays as the ordinary photographic film is to blue rays. This is run through a kinematograph camera in the usual way, with the exception that between the film and the lens is a rotating disc part of an annulus which is composed of a green gelatin screen—i.e., blue plus yellow—and another part of the same annulus of an orange red screen—i.e., red plus yellow. The film when developed shows no colour at all but only the ordinary gradations of black and white. When, however, this film is again run through the kinematograph lantern, with the revolving disc between it and the lens, the colour waves are again actuated and the photographs on the film appear upon the screen in colour. The demonstration referred to, though Mr. Smith impressed upon his audience that the invention was yet in an experimental and inchoate stage, was of extreme interest. Thus, the photograph of a lady in a white dress with red sash and red roses in her hat came out in very pure colouring, while another photograph of a child dressed mainly in green who held up at intervals a tartan plaid, the tartan containing a great deal of red and yellow, came out equally well. Allowance has to be made for the fact that as the films were taken by daylight and exhibited by the arc light the colours naturally showed some slight deviation from the appearance which they would have presented by daylight. So far as we can see the invention has a promising future before it. It does not appear, however, that it will be of any more value in medicine for the representation of colour changes in disease such as various affections of the skin, pigmentations and the like, than the Lumière process, for, of course, the question of motion does not enter into such cases.

PERFORATION OF THE GALL-BLADDER IN ENTERIC FEVER.

ALTHOUGH inflammation of the gall-bladder frequently occurs in enteric fever and many cases of post-typhoid cholecystitis have been reported an operation for perforation of the gall-bladder during the disease is a great rarity. In the *American Journal of the Medical Sciences* for April Dr. A. P. C. Ashhurst has recorded two cases. In the first case a boy, aged 12 years, was admitted into hospital about the end of the third week of an attack of enteric fever. The temperature was 101·8° F., there were rose spots and enlarged spleen, and Widal's reaction was positive. He became delirious and the temperature ranged from 103° to 104° and the pulse from 120 to 130. On the thirty-second day of the disease at 10 A.M. he complained of pain in the right side of the abdomen and there was some rigidity of the right rectus muscle, and the most tender spot in the abdomen was over this muscle at the level of the umbilicus. At 11 A.M. the pain, tenderness, and rigidity had considerably increased and the abdomen moved very little with respiration. At 1 P.M. the symptoms had further increased, the abdomen was distended, and tenderness was no longer localised but had spread over the whole abdomen, remaining, however, greatest on the right side. There had been practically no change in the pulse-rate but within three or four hours the temperature had fallen from 104·4° to 102·4° and the leucocytes from 10,200 to 6200. Intestinal perforation was diagnosed. At 3 P.M., under ether, a transverse incision was made in the right iliac region. Much bile-stained fluid was found on sponges inserted among the intestines. The whole of the small intestine and about six inches of the ascending colon were examined but no perforation was found. All the intestines were much congested and inflamed. On account of the patient's critical condition no further attempt was made to find the cause of the peritonitis. A tube was introduced and the wound was partly closed. Death occurred 20 hours after the operation. The necropsy showed general peritonitis and perforation of the gall-bladder. In the second case a youth, aged 20 years, was admitted into hospital at the end of the second week of an attack of enteric fever. The temperature was 104° and the pulse was 120. The spleen was slightly enlarged, there were a few rose spots, the Widal reaction was positive, and the leucocytes numbered 8000. About the thirty-seventh day of the disease the temperature became normal but on the thirty-ninth and fortieth day it rose irregularly. On the forty-first day at 8 A.M. the temperature rose to 104° and the pulse to 120. The patient vomited greenish fluid and complained of not feeling so well as previously. He had no pain but on deep palpation below the right costal border slight but distinct tenderness was found. His general condition was good and the leucocytes numbered 24,000. Calomel and magnesium sulphate were given but were vomited. On the following day at 4 A.M. the temperature was 100·2°, the pulse was 136, and there were severe pain and tenderness in the right upper abdominal quadrant. The right half of the abdomen was very rigid. There was no distension or dulness in the flanks. The resident physician diagnosed perforation of the gall-bladder. Dr. Ashhurst was summoned and was surprised to find that the patient looked like a man of 40. His expression was characteristic; there was not the Hippocratic facies but a general weakening of all the features. At 8 A.M., four hours after perforation, a small incision was made through the outer border of the right rectus muscle above the level of the umbilicus. There was a little serum in the peritoneal cavity. The transverse colon was found adherent to the liver and the incision was extended upwards for a distance of four inches. The upper abdominal region was isolated by gauze packs and slight recent adhesions were cautiously ruptured. Serous fluid welled up from above the transverse colon and was followed by four ounces of thick inodorous pus which seemed to come from the under surface of the liver. The gall-bladder was buried in dense adhesions between the liver and colon and showed a ragged perforation measuring 1¼ by 1½ inches. The gall-bladder was excised and its neck was ligatured with chromic catgut. A drainage-tube was inserted and the incision was partly closed. Recovery was almost uneventful. The pus yielded the typhoid bacillus in pure culture. Dr. Ashhurst has found records of 19 operations performed on the gall-bladder during enteric fever. These include aspiration of the gall-bladder through the abdominal wall, cholecystendysis, cholecystotomy and drainage, cholelithotomy, and cholecystectomy. Adding Dr. Ashhurst's two cases, recovery took place in eight out of 21 cases.

THE TREATMENT OF SINUSES WITH BISMUTH PASTE.

IN the *Journal of the American Medical Association* of March 14th Dr. E. G. Beck has described a new method of treating sinuses and chronic abscesses from which he has obtained good results. It is well known that bismuth offers great resistance to the passage of the x rays. Dr. Beck injects into sinuses a paste made with one part of bismuth and two parts of vaseline and takes a radiograph. The shadow shows the shape of the cavity and its ramifications. Sometimes the result is most surprising and shows that patients have not been cured after several operations because all the tract of the sinus has not been removed. A subsequent operation done under the guidance of the radiograph has proved successful. Moreover, the bismuth paste has also curative properties. After one injection a psoas abscess which had existed for nearly two years permanently closed. A girl, aged four years, had a sinus resulting from a psoas abscess which had discharged pus for nearly two years. Bismuth was injected and the skiagraph showed that the fistula

extended from Scarpa's triangle along the psoas muscle to the junction of the second and third lumbar vertebræ, where the bismuth filled a space about three-quarters of an inch long and one and a quarter inches wide. A few days later the sinus stopped discharging and two months later it had closed permanently. Another skiagraph was taken and it was found that the bismuth had all disappeared. The method of injection is as follows. The sinus is first dried by packing it with a strip of gauze half an inch wide which is removed just before injection. The paste is sterilised and while hot and liquid a glass syringe is loaded with it. The tip is tightly pressed against the opening of the sinus and the paste is forced in very slowly until the patient begins to complain of pressure. The syringe is then removed and a small gauze sponge is quickly pressed against the opening to prevent the escape of the paste before it has hardened. An ice bag may be applied to hasten the hardening. The injections are continued until the discharge ceases and then a harder preparation containing 5 per cent. of soft paraffin and 5 per cent. of white wax is used, after which the fistula usually remains closed. This treatment is applicable to all sinuses, fistulas, and abscess cavities except intracranial sinuses and biliary and urinary fistulas.

A CONVERSAZIONE will be held at the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, London, W., on Monday, May 18th. The President will receive the company at 8.30 P.M. and subsequently he will present the Fothergillian medal to Sir Almroth Wright, F.R.S. At 9 o'clock Mr. Clinton T. Dent will deliver an oration on the After Results of Injuries.

A COURSE of eight lectures on Some Aspects of the Physiology of the Heart and Circulation, by Mr. Leonard E. Hill, M.B., F.R.S., and Mr. Martin Flack, B.A., will be given in the physiological theatre of the London Hospital on Tuesdays, at 4.30 P.M., beginning on May 12th. These lectures, are free to all students of the University of London.

Professor David W. Finlay, M.D. Glasg., LL.D., F.R.C.P. Lond., will preside at a dinner of the Glasgow University Club, London, at the Trocadéro, Piccadilly-circus, London, W., on Friday, May 29th. Applications for tickets should be addressed to the honorary secretaries.

THE Governor of Hong-Kong in a despatch to the Secretary of State for the Colonies states that 39 cases of plague were reported during the week ending May 2nd, the number of deaths being 39.

INTERNATIONAL FIRST AID CONGRESS. — The forthcoming congress at Frankfort-on-the-Main, which is to be held during Whitsun week (June 9th to 13th), promises to be a great success. Registrations, in order to participate in the proceedings at the congress, are being received daily, and it is confidently believed that in point of numbers the attendance will far exceed 700, the number at first estimated. The honorary committee is composed of influential and distinguished members and includes the German Imperial Chancellor (Prince Bülow) and representatives of the departments of state of the German Union of States. A committee meeting of the British section was held on April 29th at which the Duke of Marlborough, K.G. (who has stated his intention of being present at Frankfort), presided. It is reported that great and increasing interest was being evinced in the project and it was further stated that Great Britain, which always takes the keenest interest in such matters as the congress is being held to discuss, will be well represented. We have been asked to state that any person interested in the cause and who is desirous of becoming a member should at once communicate with the honorary secretary, Mr. S. Osborn, F.R.C.S., Datchet, near Windsor, as time is now very short.

REPORT OF THE BELFAST HEALTH COMMISSION.

THE report of the Belfast Health Commission is a document of great interest and is a storehouse of valuable information on the subject with which it deals. The citizens of Belfast who demanded the inquiry did so on two grounds: first, because they believed, founding their comparison on the statistics supplied by the Irish Registrar-General, that the death-rate of the city of Belfast when compared with that of the majority of the larger cities of the United Kingdom was excessive; and secondly, that the excess was caused largely by diseases of the classes which in the present state of sanitary science are known to be preventable. The Commissioners in their conclusions find that the death-rate from all causes in Belfast is, and has been for several years, about the same as that of Manchester, rather lower than that of Dublin or Liverpool, but not so low as that of other large cities of the United Kingdom, and they say that "although the death-rate of Belfast *from all causes* is by no means low, we think the allegation that it is, or has been in recent years, excessive cannot be maintained." Their verdict on this question is arrived at by estimating the population of the city of Belfast for 1906 as about 380,000 instead of 366,220 as given by the Irish Registrar-General. Everyone admits the difficulty of calculating the population of growing cities in intercensal years (Sir Robert E. Matheson's method is to arrive at the results by a consideration of the birth-rate, of the effects of emigration and immigration, and of any local facts of which he is able to obtain knowledge, while the Commissioners' calculations are based on the birth-rate), and as it will only be known for certain at the next census in 1911 what the population is, the estimate of the Commissioners can after all only be regarded as problematical. It is well known that Belfast has not been increasing of late years as it did, and it is just as probable that the estimate of the Irish Registrar-General may in the end turn out correct, which would as a result make the death-rate higher than it is estimated according to the Commissioners' calculations.

But, even accepting the Commissioners' results, is it any ground for satisfaction that a new, beautifully situated, and quite modern city like Belfast is only exceeded in its general mortality, taking large cities, by Dublin (which has so long enjoyed a very unenviable position for its high death-rate) and by the densely populated city of Liverpool, which from its being the great port of the Empire is constantly exposed to influences not present to the same extent in any other British city? As to the second point—that is, the excess of deaths in Belfast caused by preventable disease—the conclusions of the Commissioners are very striking, for in reference to enteric fever they say that the mortality from it in Belfast has been excessive in almost every year since the time (1872) when deaths from this disease were first separately recorded in the returns of the Registrar-General of Ireland. For the last 25 years at least the mean annual mortality from this disease has been so great in Belfast that no other city or town (the Commissioners say) of the United Kingdom equals or even approaches it in this respect. Indeed, the very excess of this disease has been so great as to "make Belfast unique in this respect among communities in the United Kingdom." Then as to pulmonary and other forms of tuberculosis, the mortality has been, and is, excessive in Belfast (the Commissioners report) in comparison with English and Scottish cities, but it has not been exceptional for an Irish city.

As to infantile mortality, Belfast holds a not unfavourable place in comparison with other great cities in the United Kingdom (146 per 1000 births in 1901–05), due largely to the fact that the nursing of infants by their mothers is more extensively and more thoroughly carried out in Belfast than in either England or Wales. The Commissioners think that it is probable that the rate of infantile mortality in Belfast is somewhat understated, but even taking it as calculated they say "it is not to be understood that the Belfast rate of infantile mortality is low, or as low as it might be. Steps should be taken to continue examination of the causes of death among infants and as a result to devise further means of reducing this mortality." Moreover, the Commissioners point out that influences seem to exist in Belfast of a sort to cause undue mortality among all young people, but especially so among females between the ages

of five and 45 years—that is to say, among females during a period of life which embraces the school age, the age of puberty, the young working age, and also the child-bearing age. They commend the detailed analysis of these mortality returns to the Belfast corporation.

In reference to the prevalence of enteric fever, in the opinion of the Commissioners insanitary conditions have no doubt played a very important part in fostering enteric fever in Belfast but cannot of themselves account for so excessive a mortality from this disease or for other features of its history, nor do they think that the water-supply can account for enteric fever in Belfast, because there has been no relation between the distribution of the disease and the distribution of any one of the three separate sources of water-supply. On the contrary, the incidence of enteric fever in different parts of the city has been generally similar and simultaneous, irrespectively of water-supply or insanitary conditions, and, moreover, it appears to have almost exclusively affected the working-class areas of the city. The prevalence of enteric fever in Belfast, the Commissioners think, is due to the influence, direct and indirect, of shell-fish gathered from the grossly contaminated foreshores of Belfast Lough. An extremely valuable addendum to the report on "Enteric or Typhoid Fever in Belfast," by Dr. L. W. Darra Mair, is in support of the same view and should be read by everyone interested in the etiology of enteric fever. On the other hand, some will think that the case for the shell-fish origin is hardly proved and that the extraordinary and continued prevalence of a disease like enteric fever (in 1898 two out of every 1000 of the population in Belfast died from enteric fever) suggests a much more widely diffused and constantly acting cause than the eating of raw shell-fish. It may be pointed out that a careful inquiry made some time ago at the Fever Hospital in Belfast disclosed the fact that the consumption of raw shell-fish by those who suffered from enteric fever was an infinitesimal factor in the cases.

It is to be regretted that in reference to the "white plague of Ireland"—tuberculosis—the Commissioners seem to have failed to face the question and this is the more remarkable because it was largely on account of the prevalence of tuberculosis that the Commission was appointed. Two questions were raised at the Commission: the great prevalence of pulmonary tuberculosis in Belfast and in Ireland, and all we can gather from the report is that "the age and sex incidence of phthisis mortality in Belfast and Ireland is very different from what it is in Manchester and in England and Wales. It may, to some extent, be due to differences in disease nomenclature in the two countries. The whole question of phthisis in Ireland seems to us to require further and exhaustive inquiry. We have refrained from any recommendations in regard to the notification of phthisis and the provision of sanatoria or dispensaries, as the Local Government Board for Ireland have advised local authorities in recent years, and we understand that a Bill on these subjects is about to be introduced by the Chief Secretary for Ireland." Since 1864 the mortality from tuberculosis has steadily fallen in England and Scotland while it has as steadily risen in Ireland. Surely a commission (on which both English and Scotch public health experts sat) should have tried to give the people of Ireland some explanation of such a deplorable state of affairs and how it could be prevented. This is undoubtedly the weakest and most disappointing part of the whole report.

The report is a vindication of the action of the medical profession who urged, when the position of medical officer of health was last vacant, that a man of thorough practical experience and training in public health should be appointed at an adequate salary, and that he should be sole head of his department. "In view," the Commissioners say, "of the many complaints which for several years had arisen in connexion with the work of the Public Health Department, it was of primary importance that a man of wide experience in public health administration in other places should have been appointed, and that a salary should have been offered which would have attracted highly qualified and experienced candidates. This view was very strongly urged upon the corporation by the Local Government Board but was not adopted. We consider that a grave mistake was made by the corporation in not accepting this advice. This office, for a city like Belfast, is always of great importance, and was especially so in the circumstances of the moment; and it must be remembered that the issues at stake concerned the health of a large industrial city, eighth in population in the United Kingdom. Unfortunately, in Belfast it has been customary to fill this position by electing a former member of the corporation thereto, and it is obvious that when a comparatively low initial rate of salary is proposed, and it appears probable that local connexions will outweigh special qualifications for the discharge of the duties of the office, the choice of candidates is likely to be restricted."

The Commissioners are totally opposed to the present arrangement by which there are 14 local medical officers of health (dispensary doctors) appointed by the guardians, while the medical officer of health is elected by the corporation, and they report that this system should be abandoned as unsuitable and unworkable in the case of a large city like Belfast, and that instead reorganisation should be effected so as to bring the public health administration into line with that which obtains in the great cities of England and Wales and Scotland by making provision for the appointment of a special medical staff for public health work. The whole responsibility of the administration would thus be placed on the central medical officer of health who should have such assistance as may be deemed necessary. The Commissioners are very severe on the present system in Belfast by which the chief medical officer of health is not supplied with vital statistics which the late Dr. Farr said formed the basis of all health reform. "The cause of not one infant's death in Belfast is known to the Belfast corporation. Similarly the causes of death among children are quite unknown, or indeed the causes of death among persons of whatever age. Likewise the corporation are completely in the dark as to places where deaths in the city are occurring even from such important diseases as phthisis, tuberculosis, pneumonia, cancer, diarrhœa, or from diseases which may be due to industrial causes, to poverty, or to any of the other conditions which may be thought of as associated with modern town influences. And even in regard to the principal epidemic diseases similar ignorance prevails, except in regard to those which are notifiable under the Infectious Disease (Notification) Act." Further, the Commissioners say "it it therefore impossible for Belfast to institute what may be termed a 'pathological register' in which to record the sex, age, residence, and nationality of every diseased person, the size, situation, sanitary circumstances of his house, and so on, such as has proved of great value to other local authorities." They wisely say that it is obvious that the matter cannot be allowed to rest thus and that the most effective and most natural method of dealing with it is to follow the precedent of the English and Scottish Registration Acts, even if such a method involves fresh legislation, and they strongly recommend that this should be done without loss of time.

The report may be described as containing a series of admirable recommendations, to some of which we have already alluded. In reference to the water-supply a more thorough filtration is advised, and the early development of the Mourne supply is considered to be the main feature of future policy; and further, it is recommended that the water-supply should be in the hands of the corporation. Capital advice is given as to sewage disposal, sanitary administration (including the appointment of a special medical staff for public health work, the appointment of a bacteriologist, increase of sanitary sub-officers, increased accommodation for infectious cases, the provision by the corporation of an efficient steam disinfecting apparatus, the removal of refuse, and the proper treatment of insanitary areas), milk- and meat-supplies, schools, and conditions of employment. But the impression left by a perusal of the report can hardly fail to be that in the great city of Belfast, the most populous city in Ireland and the eighth in the United Kingdom in regard to population, the science of public health is in a more backward condition than in any town of its size in the United Kingdom. The report is, as we have already pointed out, a thorough vindication of the action of those who, in the interest of the health of their city, asked for the appointment of such a Commission. It is hoped that a further step will shortly be taken—namely, to urge the Irish Government authorities to demand that the weighty suggestions in the report shall be carried out and that they shall not be "pigeon-holed" as those of the "Harrison" Committee were in 1896—a report of great importance, because, as the present Commissioners say, "it expressed the views of a committee of the corporation on their own administrative methods."

Those of the public health committee of Belfast who think because the Commissioners estimate the population of Belfast as higher than the careful calculation of the recognised

authority—the Irish Registrar-General (who will be entitled to criticise their figures)—that they have gained a victory over those who asked for the appointment of the Commission, must be compelled to face the very serious and numerous recommendations contained in the report. It is interesting to note that the Local Government Board has written to the corporation of the city of Belfast urging it to "bestow upon the report and the valuable recommendations therein contained that immediate and earnest consideration which a matter so seriously affecting the health of their city demands."

THE REMOVAL OF KING'S COLLEGE HOSPITAL TO DENMARK HILL: MEETING OF SOUTH LONDON MEDICAL PRACTITIONERS.

ON April 30th a largely attended meeting of general practitioners of South London was held at the Camberwell town hall to consider the future administration of King's College Hospital as it will affect the practitioners of South London, the district into which it is to be removed. Very nearly 100 attended the meeting which was held under the auspices of the South London Hospitals Committee, the chairman of which body, Mr. Robert Capes, occupied the chair. Before opening the business of the meeting the chairman proposed a vote of sympathy with the widow and relatives of the late Mr. C. H. Brangwyn, a member of the committee, which was passed in respectful silence. He then proceeded to explain that the South London Hospitals Committee had been created to confer on behalf of the medical practitioners of that district with the Watching Committee of King's College Hospital, a body appointed by the board of the Medical School with advisory but not executive powers as to the administration of the new buildings. He expressed gratitude for the very reasonable and fair attitude which the hospital had adopted towards the practitioners of South London, and insisted that there was no question of their opposing the advent of the hospital and that it was desirable to work in harmony with the Watching Committee. A year ago the two committees held a conference at which the practitioners presented to the watching committee 17 resolutions designed to check abuse of the hospital charity and to safeguard the interests of neighbouring medical men. Of these the watching committee agreed to the following 15 (although it would appear that Nos. 7 to 10 depend on No. 6 which was not approved):—

1. That there be no issue of subscribers' letters.
2. That sickness and poverty be the qualifications for hospital treatment.
3. That no charge be made for the treatment of any patient of the hospital, or for the supply of medicine or dressings.
4. That urgent cases receive attention without inquiry.
5. That each applicant for treatment, on the first visit, be seen by a registered medical practitioner and if found suitable for hospital treatment attended to; and that the name, age, address, occupation, or position be entered in a register.
7. That such certificate be written on a form supplied by the hospital.
8. That such certificate, duly filled up, be appended to each patient's prescription-paper or attendance-card.
9. That the following be submitted to the authorities of King's College Hospital as the ordinary form to be supplied to patients attending the hospital for the first time.

MEDICAL CERTIFICATE.

I hereby recommend ..... aged .....
as a suitable case for treatment at the.....Hospital.

.....Registered Practitioner.

.....19.....

No charge is made for this certificate.

(REVERSE SIDE OF CERTIFICATE.)

In signing this certificate, the practitioner is requested to keep in view two points:—

(1) That the applicant is not in a position to pay for treatment;

(2) That the case is, from a hospital point of view, suitable for treatment.

10. That a similar certificate be required in maternity cases.
11. That it would be satisfactory if a system could be arranged, whereby obscure and interesting cases might be brought or sent with a note by practitioners for an opinion when a consultation fee cannot be paid.
12. That all cases of trivial accident or illness deemed ineligible for the out-patient department shall, after having been once attended to, be referred for treatment elsewhere.
13. That, should a general practitioner report in writing the attendance of a person well able to pay, the letter if duly signed be treated as confidential and the matter investigated.
14. That the hospital authorities use every means in their power to prevent unsuitable cases receiving hospital treatment, and appoint such officers as they consider desirable to make inquiries with a view to checking hospital abuse.
15. That the regulations as to the admission of patients for treatment be displayed in conspicuous positions in the hospital.
16. That no patients except maternity cases be attended outside the hospital.

The two following resolutions were not approved by the watching committee:—

6. That, on a second application for treatment, a patient bring with him a recommendation signed by a qualified medical practitioner stating that such patient is a suitable person for hospital treatment.
17. That private wards or nursing homes for paying patients be distinct from the general hospital and not erected or maintained out of the funds given for hospital purposes.

It was to discuss these important points of principle that the meeting was convened.

Dr. M. G. BIGGS proposed the following motion:—

That this meeting strongly disapproves of paying patients being admitted into general teaching hospitals erected out of charitable funds, and sincerely hopes the authorities of King's College Hospital will not adopt any system for the admission of paying patients.

He endorsed fully the chairman's remarks concerning the considerate and courteous treatment shown by the Watching Committee to the South London practitioners. He explained that the hospital only intended to take in *contributory* patients to the paying beds—i.e., to charge them only for maintenance and not for treatment, as it was thought there was need of accommodation for such people as were above the general run of hospital patients but relatively worse off than that class. They were to be admitted to special wards and used for teaching purposes and to be treated by the hospital staff. The British Medical Association had laid it down that there was no objection to paying wards in hospitals if they were open to the general body of practitioners to send in cases which they could themselves continue to treat. Dr. Biggs went on to speak of the temptation experienced by hospitals having paying wards to exploit them as a means of gain and submitted that it was neither wise nor right to use charitable funds for investment in such commercial undertakings. "Contributory" patients could be cared for equally well by their own medical attendants in special nursing homes or cottage hospitals managed by committees on which medical practitioners should be properly represented; to such hospitals younger consultants would gladly come for moderate fees if required for purposes of consultation or to carry out special treatment.

Dr. J. F. W. SILK, secretary of the King's College Hospital Watching Committee, said it would be four years before patients could be admitted to the new buildings, so the matter was not urgent. All over the country lay people were bringing pressure to bear upon hospitals to institute paying beds, and the present scheme had been put forward in deference to such pressure. He submitted that the public paying the piper had a right to call the tune. The Watching Committee held that it was utterly impracticable to throw the wards of a teaching hospital open for all or any local practitioners to have charge of cases treated in its wards. Every possible precaution would be taken to prevent abuse of the contributory beds, which would be in annexes to the general wards; each was to hold two beds, a number considerably less than had been originally proposed, thanks to the Watching Committee's strong representations. The almoner would be able to check any abuse of these beds. In answer to Dr. F. G. Swayne Dr. Silk stated positively that the contributory beds would not be made a matter of gain to the hospital.

Dr. J. H. KEAY also spoke to the motion which was put to the meeting after the proposer had replied and was carried unanimously.

Dr. R. ESLER then moved:—

That it is the opinion of this meeting that the system of admission to King's College Hospital by certificates from the medical practitioners as set forth in resolution 6 of the South London Hospitals Committee should be given a fair trial, and this meeting strongly urges the authorities of King's College Hospital to incorporate this system into the rules of the hospital.

He acknowledged that the system would entail much trouble to practitioners but declared that their interest in the matter was apparent. Hospital abuse was not the fault of the members of hospital staffs, although they were often blamed by general practitioners for treating patients who could afford to pay. This proposal gave a solution to the difficulty.

All great hospitals were in need of funds and treated too many out-patients. Medical men could get more influence on hospital committees if they would stand firm. In the course of his speech Dr. Esler made certain remarks concerning feminine competition which, considering the presence of lady practitioners in his audience, might have been omitted.

Dr. E. R. FOTHERGILL moved the following amendment:—

1. That this meeting of South London registered medical practitioners understanding (1) that at the present time a Royal Commission is inquiring into the Poor-law system; (2) that the King Edward Fund has decided to inquire into the system prevailing at the large general hospitals of London with regard to the admission of out-patients; and (3) that for the uses of the sick poor resident in Camberwell and district there are already provided 26 hospitals, five infirmaries, 18 dispensaries, and nine other institutions, considers that there has been no evidence offered of the necessity for any out-patient department at the proposed King's College Hospital on the lines of those at the large London general hospitals; regrets that a contract for £65,000 for such a department has been placed; and is of opinion that a small out-patient department to which will be admitted either for consultation or treatment only those recommended as suitable by registered medical practitioners, as suggested in Resolutions 6, 7, 8, 9, and 11, would amply meet the needs of the district, would fulfil all requirements for the education of students, and should be given a fair trial.

2. That the Lambeth, Norwood, and Wandsworth divisions, the Metropolitan and South-Eastern Branch Councils, as well as the Central Council and Representative Body of the Association, be urged to approve and support this resolution, a copy of which shall also be sent to King Edward's Hospital Fund, the Hospital Saturday and Sunday Funds, the Charity Organisation Society, King's College Hospital Board, THE LANCET, the *British Medical Journal*, and the press generally.

His speech was a well-considered and able elaboration of the arguments embodied in the amendment. He insisted that the interests of the profession and the public coincided, deplored the fact that hospital rivalry had led to commercial exploitation of the statistics of patients treated, instancing a recent increase of 100,000 per annum of out-patient attendances at Guy's Hospital with a consequent loss to the general practitioner. He submitted that South London did not want an out-patient department for King's College Hospital which should coöperate with existing dispensaries. There were five classes of hospital out-patients: (1) those who could afford to pay for advice; (2) those who were in clubs and dispensaries but yet went to hospital; (3) those who ought to be in, but would not join, clubs and dispensaries; (4) Poor-law cases; and (5) cases genuinely needing a second opinion and unable to afford a consultant's fee. A *consultation* department would be legitimate and useful—in fact, more useful for teaching purposes than the present out-patient departments. The speaker drew a striking picture of the present unsatisfactory method of dealing with out-patients at general hospitals from the point of view of the patients, the students, and the medical staff in charge. Over 150 medical men in the neighbourhood had promised to give the scheme a fair trial. Dr. Fothergill finished his remarks with a spirited appeal to the older practitioners to assist the younger in their struggle.

Dr. L. S. MCMANUS, after congratulating the meeting on showing so united a front against a common enemy, gave a clear account of the system in practice at the Bolingbroke Hospital, of the staff of which he is a member. The special departments of the hospital were each in charge of a London consultant of high standing who attended on special days. Each out-patient brought up a card from his own medical attendant and the consultant wrote his opinion on a form which was sent back to that practitioner who carried out the treatment himself. He insisted that this was a more rational and honest method than that of giving the patient a quart of medicine at the hospital and telling him to come back in a fortnight, no matter what happened to him meanwhile. Dr. McManus enlarged upon these arguments in forcible and telling manner.

The amendment was debated by Mr. C. W. HOGARTH, Dr. KEAY, and Mr. V. S. PARTRIDGE with regard to the feasibility of the medical certificate system; the possibility of certain abuses was suggested.

Mr. H. HARVEY NORTON said that such a card system had failed hopelessly at the Belgrave Hospital and he suggested that local practitioners should subscribe to support their own almoner at the hospital.

Dr. SILK protested that it was too late to object to an out-patient department which had already been planned by King's College Hospital.

Dr. FOTHERGILL again pleaded that his plan should be given a fair trial, and the amendment was put to the meeting and carried by 58 votes to 9, and passed again without further discussion as a substantive motion.

Mr. W. SOPER moved a vote of confidence in the South London Hospitals Committee, which was carried unanimously, as were votes of thanks to the Chairman, to Dr. Silk for his attendance, and to the mayor and town council of Camberwell for the use of the town hall for the meeting.

THE ROYAL ACADEMY.

THE 140th exhibition of the Royal Academy of Arts was opened to the public on May 4th, and the protagonist of the exhibition is undoubtedly Mr. Charles Sims, to whose pictures we shall refer later. To begin with the pictures having a medical interest, Mr. J. Seymour Lucas shows a portrait of Sir Francis Laking (348) in gorgeous robes and decorations, while Mr. John Collier (428) exhibits a work called "Sentence of Death," which we imagine represents a physician telling a patient that he is doomed. We presume that he is a physician because on his desk are a microscope, a stethoscope, and a sphygmomanometer. The nature of the patient's illness is by no means easy to diagnose. He is quite young, he is evidently not suffering from advanced tubercle, he is not bronzed enough for Addison's disease, so we can only suggest visceral sarcoma. A work which may well be compared with this is Mr. Edgar Bundy's dramatic rendering of an episode during the Great Rebellion called "The Sands of Life" (324), in which a captured cavalier sits waiting for death whilst the sands of an hour-glass are running; among the Puritans who stand watching him is a fanatical preacher of the type that used to be called by the Cavaliers "a Doddipot and a Green-headed Trumpeter"; it must be some consolation to the unfortunate prisoner that when the sands have run out the exhortation will come to an end. The work is very strong in the various expressions of the different faces, on some of which a firelight plays. Turning to Room 1, Mr. George Clausen's "Gleaners Returning" (4) will at once attract attention, while No. 14, Mr. Mouat Loudan's "The Crystal," which has been most unjustifiably skied, is singularly charming. Mr. J. J. Shannon's "Princess Patricia of Connaught" (16) is in every way worthy of being placed by the side of the magnificent portraits of her father and mother by Mr. Sargent, which are in Room No. 3. Another portrait in this room merits attention—namely (28), by Sir W. Q. Orchardson, the subject being Nurse Charles (Mrs. W. H. Wood)—but the gem of this room, in fact, we think we may say of the whole collection, is (50), Mr. Charles Sims's "The Little Faun," a truly exquisite fantasy, full of the spirit of Theocritus. Mr. Sims has the true child spirit, such as Thomas Traherne wrote of when he said,

> "Then did I dwell within a world of light,
> Distinct and separate from all men's sight,
> Where I did feel strange thoughts, and such things see
> That were, or seemed, only revealed to me."

No. 55, "A Ligurian Garden," shows Mr. La Thangue in his sunniest mood. In Room 2 Mr. Shannon exhibits an experiment in the nude called "The Infant Bacchus," in which it would almost appear as if one nymph had been painted from a model who has been in the habit of tight-lacing. In Gallery No. 3 besides Mr. Sargent's portrait, which we have already noticed, Sir Hubert von Herkomer has a strongly painted portrait of the Bishop of London (188), next to which Mr. David Murray has a wonderful study of sea and sky, which would seem to be a recollection of the amazing Krakatoa sunsets of 1884. Mr. George Clausen in (202) shows one of his vigorous and spiritual studies entitled "The Boy and the Man." In (207) Mr. Sargent has a striking portrait of Mr. A. J. Balfour. In (239) Mr. J. M. Swan shows his usual skill in portrayal of pumas and jaguars in his presentment of Saint Maldonada, who, be it remembered, was tied up to a stake for the wild beasts to eat and who was guarded from destruction by pumas. In Gallery No. 4 Mr. Frank Brangwyn exhibits (257) a magnificent piece of decorative colour-work called "The Return." It is a decoration which ought to be bought by some millionaire who possesses a gallery like that in Carabas Castle immortalised by Thackeray in the "Book of Snobs," which the housekeeper described as "One 'undred and forty-eight in lenth by thirty-two in breath," for it requires to be seen at a distance of about 40 feet to be appreciated properly. Mr. Frank Bramley's portrait group,

"Helen Graham Chalmers and Her Mother" (300), is full of light and air and colour. In Gallery No. 5 Mr. C. W. Wyllie's (347), also called "The Return," is worthy of close study and comparison with Mr. Brangwyn's treatment of a similar idea; and Mr. Sims in (361) has, we are glad to say, captured the Chantrey Fund by "The Fountain," a study of falling waters, light, and nymphs, which shows the artist in the best sense to be truly *νυμφόληπτος*. Our space is too limited to allow us to do more than mention a few of the remaining pictures. In (417) Mr. George Henry has a charming portrait study which he calls "Silk and Ermine," and another striking portrait is (433), H.H. the Maharajah Orocha, by Mr. Herbert Olivier. Mr. George Harcourt (480) exhibits a brilliant piece of work entitled "Supper in Summer Time." In the room popularly known as the "Gem Room" Miss C. M. Wood has a very clever study of the splendid colours shown by various copper ores (683). Two adjoining pictures in Gallery No. 10 should on no account be missed, these being Nos. (877) and (878), by Mr. Raven Hill and Mr. G. Sherwood Hunter respectively, the former being a study of a lady seated in subdued light at a piano, and the other a Brittany "First Communion" with a charming effect of light from a hundred candles mixing with the daylight. Mr. E. A. Hornel in (897) has a picture singularly reminiscent of his exhibit in the New Gallery, and in (975) Mr. W. W. Ouless shows a good portrait of Mr. Pridgin Teale. Of the water-colours we have only space to notice the President's little picture of Amat Forest, Ross-shire.

Of the sculpture we must first mention (1848) Mr. Herbert Frampton's bust of Dr. J. Hughlings Jackson, which is to be placed in the Hospital for Epilepsy and Paralysis, Queen-square, Bloomsbury, London, W.C. Mr. F. Lynn Jenkins' group (1851), "The Ides of March," shows well the lifelessness of Cæsar's body as opposed to the two senators straining to support it. Other notable statues are (1820) Mr. Harold Parker's "Ariadne" and (1974) Mr. Bertram Mackennal's "Diana," two beautiful nudes which have been acquired for the nation by the Chantrey Fund, which has also rightly acquired Mr. C. L. Hartwell's vigorous little bronze of elephants which he calls "A Foul in the Giants' Race." Lastly, we must mention (1973) Mr. Goscombe John's model of altar tomb and effigy of the late Marquis of Salisbury, and (1976) Mr. F. Derwent Wood's "Psyche." On the whole we consider that this year's Academy exhibition is one of the most interesting of those which have been held during recent years.

BRITISH MEDICAL BENEVOLENT FUND.

AT the April meeting of the committee 20 cases were considered and grants amounting to £202 were made to 18 of the applicants, two cases being postponed for further inquiry. Three vacancies for annuitants of £20 were filled by selected candidates. Appended is an abstract of the cases relieved:—

Daughters, aged 54 and 47 years, of late M.R.C.S. Since loss of means some years ago through the dishonesty of a trustee applicants have supported themselves by acting as companions, &c., but just at present have no engagements. Voted £10.

L.R.C.P., L.R.C.S. Edin., aged 48 years. Had one eye enucleated 12 years ago and has since lost sight in the other. No income. Wife lets lodgings. Five children, aged 13 to eight years. Voted £18.

Four children, the eldest 13 years and the youngest one month, who have lost both parents during the current year. Are given a home by maternal grandfather, a clergyman with small means and a large family. Voted £10, with leave to apply again in six months.

Daughter, aged 65 years, of late M.D. Lond. Only income £4 a year from savings during 40 years of teaching. Now endeavours to support herself by knitting and needlework. Voted £12.

Daughter, aged 57 years, of late L.S.A. Lets lodgings and has to support a sister incapacitated by ill-health. Voted £12.

Daughter, aged 31 years, of late L.R.C.P., L.R.C.S. Edin. Has maintained herself as a nurse-companion but is now incapacitated by rheumatoid arthritis. No income. Voted £10.

Widow, aged 57 years, of M.D. Edin. Has a post as housekeeper but at present has to support a daughter who is temporarily incapacitated. Voted £5.

Widow, aged 60 years, of M.R.C.S. No income. Children unable to help and health very bad. Relieved twice, £24. Voted £12.

Widow, aged 45 years, of L.R.C.P., L.R.C.S. Edin. No income. Health very indifferent. Two sons who are sailors only just self-supporting. Relieved four times, £39. Voted £12.

Daughter, aged 58 years, of late M.R.C.S., who was an annuitant of this Fund. Is given a home in exchange for services as working housekeeper, but receives no salary. Relieved seven times, £108. Voted £10.

Daughter, aged 58 years, of late M.D. Aberd. Endeavours to support herself by teaching music, but finds increasing difficulty in obtaining pupils. Relieved once, £10. Voted £10.

Widow, aged 53 years, of M.B. Aberd., whose means were exhausted by a long illness which preceded his death. For some time past applicant has held a post as nurse-companion but has been obliged to give it up on account of ill-health and at present is incapacitated. Children just self-supporting. Relieved once, £5. Voted £10.

L.S.A., aged 60 years, is incapacitated by paralysis agitans. Only income £30 a year from Epsom College. Four children, aged 18 to 12. Relieved twice, £36. Voted £18.

Widow, aged 59 years, of M.R.C.S. No income. Slight help from children; health indifferent. Relieved ten times, £111. Voted £12.

Daughter, aged 69 years, of late M.R.C.S. Has supported herself for many years as a governess. Now dependent on a small weekly allowance from a benevolent institution. Relieved once, £12. Voted £12.

Widow, aged 47 years, of M.B., C.M. Edin. Income £16 a year, and is allowed a small weekly sum by a relation. Takes boarders. Seven children, of whom six are still at school; health indifferent. Relieved nine times, £102. Voted £12.

Widow, aged 48 years, of M.R.C.S., L.S.A. Has been a housekeeper for some years, but salary has been insufficient for the bringing up of her two children, who are still barely self-supporting. Relieved nine times, £110. Voted £5.

Daughter, aged 62 years, of late M.R.C.S. No income; occasional slight help from friends. Relieved once, £12. Voted £12.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between April 25th and May 1st by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund.

Subscriber of Five Guineas.

C. Theodore Williams, London.

Subscriber of Three Guineas.

Wimbledon and District Medical Society, per D. Finlay.

Subscriber of Three Pounds.

Leigh Division B.M.A., per J. S. Martin.

Subscribers of Two Guineas.

Sir T. Clifford Allbutt, Cambridge.
John Fawcett, London.
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W. T. Lister, London.
Rochdale Division B.M.A., per James Melvin.
Harold J. Stiles, Edinburgh.

Subscriber of Thirty Shillings.

Gibraltar Division B.M.A., per L. D. Parsons.

Subscribers of One Guinea.

W. Bligh, Caterham Valley, Surrey.
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D. Dewar, Stanley, Co. Durham.
Paul M. Chapman, Hereford.
J. Charles Edwards, Aberfan, Glam.
Henry Edwards, Port Dinorwic, N. Wales.
Thomas A. Munro Forde, Southsea.
T. J. Frost, Llanhilleth.
E. Hosking, Turner's Hill, Sussex.
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D. Rhys Jones, Cardiff.
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C. W. Sharpley, Uiceby, Lincolnshire.
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Raglan W. Batten, Gloucester.
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W. Moxon, Matlock.
A. L'Estrange Orme, Darley Dale.
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F. H. Pearce, Redhill, Surrey.
J. B. Tindall, Preston.
Edward Wrench, Baslow.

Subscriber of Half-a-Crown.

F. A. L. Burges, Birmingham.

ASSOCIATION OF SCOTTISH MEDICAL DIPLOMATES.—The annual dinner of this association will be held at the Hotel Waldorf, Aldwych, London, W.C., on Tuesday, May 26th, at 7.15 for 7.30 P.M., under the chairmanship of the President, Dr. David Walsh. Ladies are invited and any holder of a Scottish qualification will be welcomed. Tickets, 10*s.* 6*d.* each (exclusive of wine), may be obtained from the honorary secretary, Dr. Arthur Harries, 11, Chandos-street, Cavendish-square, London, W.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 8th, 1830.

INVENTION OF THE DILATOR.

To the Editor of THE LANCET.

SIR,—I beg leave, through the medium of your publication, to make a few remarks upon a little instrument which has been ycleped the dilator, and which has been assumed as their own invention by certain persons, without reasonable confession of the original suggestor. This instrument has been pompously introduced into a late publication on mechanics, and ostensibly constitutes the ground-work of a publication, in which it is represented as a personal discovery. In 1811, on the way home from the East Indies, I had a gentleman under my charge who was troubled with stricture. In the course of reflection on the subject, it occurred to me, that it would be very possible to make an instrument which could be dilated, or widened, at any given point of its length, or that a greater or shorter extent of its length might be made capable of dilatation, either abruptly or gradually, from the cylindrical portion of the instrument. I illustrated a tool of this kind upon paper, and mentioned of what materials it might be constructed, to the person referred to; he instantly perceived the possibility of such a contrivance, and that it might be more or less serviceable. On my return to Britain, I intended to have said something on the subject in a periodical publication, but I concluded that it would not be particularly beneficial, and would lead only to quackery and humbug. I saw also a number of objections which might be instituted against it, and therefore very considerable probability of its comparative uselessness. On reaching London, in the summer of the same year, I mentioned the plan to the author of the Elements of Mechanics and Medical Physics, and stated, expressly, several substances of which the dilator might be composed. He appeared to catch at the suggestion with eagerness, and, if I mistake not, immediately entered it in a memorandum. For some reason, perhaps the "*fidem dabo*," he must have conveyed the hint to his brother (who has published a book on this trifle), as the former durst not avowedly be concerned in the thing himself. I believe it has done some good to the two brothers, but none to its legitimate father. The original proposer, actuated by sincerity and honesty of principle, declined executing his design, and has not obtained even the concession of an acknowledgment. A. SIMPSON, M.D.

Great Russell Street, April, 1830.

MEDICINE AND THE LAW.

Medical Fees: an Important Decision.

AT Ulverston (Lancashire) county court on April 28th Judge Steavenson gave an important judgment that cannot fail to be of interest to medical practitioners generally. The plaintiff was Mr. R. H. Beardsley of Grange-over-Sands and he sued Mrs. Willan of Holme Island for £80 17*s.* 6*d.* for medical attendance and medicines. The defence was that more visits had been paid than were necessary and that the charges for the same were unnecessarily high. It was given in evidence that Holme Island was rated at £165 gross and £140 net. Dr. A. Carmichael of Barrow-in-Furness said that in his opinion the plaintiff's account was a reasonable one and that 10*s.* per visit, with medicines extra, was a proper charge to make for attendance at a house of the description of Holme Island. Dr. R. O. Bowman of Ulverston gave similar evidence and Dr. R. G. Alexander of Halifax, who had been called in in consultation with plaintiff, said that the defendant was very ill indeed at the time when he saw her and that the visits paid were not too numerous but were absolutely necessary. It was owing to the skill with which she had been treated that she was alive now. Mr. Beardsley supported his account in evidence, giving particulars showing that for ordinary visits 10*s.* had been paid and for consultations £1 1*s.* plus the ordinary 10*s.* charge, which he always considered was the proper charge to make for a consultation. In reply to the judge the plaintiff said that he was not a Licentiate of the Society of Apothecaries. He was a Licentiate of the Royal Colleges of Physicians and Surgeons, Edinburgh, and a Licentiate of the Faculty of Physicians and Surgeons, Glasgow. It was stated that £50 had been offered in payment of the account and refused, and that as to £5 5*s.* of the claim, if the defendant pleaded the Statute of Limitations, it was statute barred. For the defence Dr. R. Lowther and Mr. O. Gwatkin medical practitioners at Grange-over-Sands were called and said that in their opinion the account was unreasonably high. They admitted, however, that they did not consider 10*s.* a visit and the charge for medicines unreasonable, considering that Holme Island was one and three-quarter miles from the plaintiff's surgery and that Mr. Beardsley had by stipulation to attend at 10.30 each morning which would doubtless be inconvenient to him and disarrange his ordinary work. Judge Steavenson delivered a considered judgment after the luncheon interval. He said he considered from the evidence that 10*s.* per visit was a proper charge, considering the value of the house, its distance from the plaintiff's surgery, and the stipulation that he was to attend the patient at a particular time. He accepted the evidence of Dr. Carmichael that a consultation fee was double the ordinary fee, which in this case must therefore be fixed at 20*s.* He did not consider the qualifications held by Mr. Beardsley entitled him to charge for medicines and that part of the claim must come out. The claim would be reduced by £11 14*s.* 3*d.* for medicines and excess charged for consultations, and the £5 5*s.* that was statute barred, leaving a balance of £63 18*s.* 6*s.* £50 had already been paid—being in the hands of the plaintiff's solicitor—so he therefore gave judgment for £13 18*s.* 6*d.*, with costs on the higher (B) scale, with allowances for witnesses.

"The Separate Existence" of the Newly Born Child.

At the recent discussion on Infanticide at the Medico-Legal Society several speakers referred to the ingenuity and quibbles of defending counsel which made it impossible, in connexion with a charge of infanticide, to determine, in the absence of the direct evidence of an eye-witness, whether a child had had "a separate and independent existence" before its life ceased. "A separate and independent existence" has been ruled in court at different periods to indicate at least four physiologically different conditions. The first and simplest requirement is the physical separation of the body of the child from the body of the mother, so that the child is wholly born into the world and is thus a full subject of the King; in this connexion it has been decided that the umbilical cord need not have been severed. The second view, which in practice was accepted for many years, was tested by the question: "Has the child breathed?" The fallacy of this test was insisted upon by those who alleged that the child might have breathed before it was completely born—that is, before it became a subject capable of coming within the technical definition of murder; many years ago the inferential physical test, based upon the performance of the respiratory function, known as docimasia pulmonum was derided as "that hydrostatic humbug." The third view of "separate existence," which several modern judicial statements have favoured, has been that in order to inaugurate such an independent being in law the circulations of the mother and of the child must be distinct. All such legal pronouncements are somewhat reminiscent of a pristine physiology and exhibit a confused knowledge as to the exact nature of the symbiotic relations of the respective circulatory systems before birth; physically, if not physiologically, it may be said that these systems, both originally and finally, are as separate as that of the sitting hen from that of the hatching chick within the egg-shell. To add to this apparent diversity of judicial opinion it may be said, from the physiological standpoint, that no child really commences its separate existence until it breathes, for until that act it is merely surviving on the nutriment already acquired by osmosis and diffusion from the mother's uterine blood-stream; hence children who have been completely born in an asphyxiated condition and who have been subsequently revived, with or without artificial aid, may be said to have commenced a real independent existence only concurrently with the first inspiration; conversely, any child gasping for air, whether in the outside world or in utero or in vagina, proclaims by that very respiratory act that it is announcing its true separate physiological existence. The fourth view, and

perhaps the most practical and satisfactory of all, is that any newly born infant who exhibits muscular contractions—be they of the heart and blood-vessels, the chest, the lips, or even of the thumbs or little toes—is to be accounted as "a reasonable creature in being and within the King's Peace," alike for the purposes of the civil and of the criminal law. The present law presumes that a newly born child found dead was born dead—that is, the fact that it lived must be definitely proved if alleged; a century ago it was always necessary for a mother, in the case of her bastard child being found dead, to prove that it was born lifeless, otherwise she was chargeable with having taken its life.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9225 births and 4896 deaths were registered during the week ending May 2nd. The annual rate of mortality in these towns, which had been equal to 15·2 and 15·4 per 1000 in the two preceding weeks, further rose to 15·7 in the week under notice. During the first five weeks of the current quarter the annual death-rate in these towns has, however, only averaged 15·7 per 1000, and in London it did not exceed 15·5 during the same period. The lowest annual death-rates in the 76 towns during the week under notice were 7·4 in Aston Manor, 7·5 in Leyton, 8·0 in King's Norton, and 9·1 in Walthamstow, all being suburban districts; the rates in the other towns ranged upwards to 23·0 in Merthyr Tydfil and in Bury, 23·8 in Hanley, and 25·6 in Swansea. The death-rate in London during the week was equal to 16·0 per 1000. The 4896 deaths in the 76 towns during the week showed a further increase of 116 upon the low numbers returned in the two previous weeks, and included 381 which were referred to the principal epidemic diseases, against 382 and 376 in the two preceding weeks; of these, 128 resulted from measles, 122 from whooping-cough, 52 from diarrhœa, 38 from diphtheria, 29 from scarlet fever, and 12 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases were equal to an annual rate of 1·2 per 1000, corresponding with the rate in each of the two preceding weeks; the rate from the same diseases in London was equal to 1·4. No death from any of these epidemic diseases was registered last week in Leicester, East Ham, Derby, Leyton, Halifax, Wolverhampton, or in 14 other smaller towns; the annual death-rates from these diseases, however, ranged upwards to 3·5 in Preston, 3·7 in Salford, 4·3 in Croydon, and 4·9 in Stockton-on-Tees. The fatal cases of measles in the 76 towns, which had been 127 and 101 in the two previous weeks, rose again last week to 128; the highest death-rates from this disease in these towns last week were 2·0 in Burnley, 2·3 in South Shields, 2·6 in Croydon, 2·9 in Stockton-on-Tees, and 3·5 in Preston. The 122 deaths from whooping-cough showed a further decline from the numbers in recent weeks; they caused death-rates, however, equal to 1·3 in Devonport and in Salford, 1·5 in Bootle and in Warrington, 1·6 in Rotherham, and 2·0 in Sunderland. The 52 deaths attributed to diarrhœa showed a considerable increase upon recent weekly numbers. The fatal cases of diphtheria, however, declined to 38, and were fewer than in any previous week of this year; they included 10 in London, three in Manchester, and two each in Bristol and in Bradford. The 29 deaths from scarlet fever also showed a decline, but included 12 in London, three in Salford, two in Liverpool, and two in West Bromwich. The 12 deaths referred to "fever," including three in Liverpool, were fewer than in any previous week of this year. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the 21 preceding weeks from 5581 to 2861, had increased to 2928 on May 2nd; 368 new cases having been admitted to these hospitals during the week under notice, against 297, 323, and 332 in the three preceding weeks. The deaths in London referred to pneumonia and to other diseases of the respiratory organs, which had been 274 and 301 in the two preceding weeks, declined again to 281 in the week under notice, but exceeded by 15 the corrected average number in the corresponding week of the five years 1903–07. The 19 deaths directly referred to influenza in London showed a further decline from the numbers in recent weeks. The causes of 58, or 1·2 per cent., of the deaths registered in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, Bristol, West Ham, Leeds, Newcastle-on-Tyne, Nottingham, and in 41 other smaller towns; 10 uncertified causes of death were, however, registered in Liverpool, seven in Birmingham, and three both in South Shields and in Gateshead during the week under notice.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 16·4 and 16·8 per 1000 in the two preceding weeks, was 18·7 in the week ending May 2nd, and exceeded by 3·0 the mean rate during the same week in the 76 large English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 14·4 and 14·8 in Paisley and Leith, to 20·9 in Glasgow and 23·7 in Perth. The 658 deaths in these eight towns were fewer by five than the number in the previous week, and included 68 which were referred to the principal epidemic diseases, against 77 in each of the two preceding weeks; of these, 24 resulted from measles, 20 from whooping-cough, 13 from diarrhœa, five from "fever," and three both from scarlet fever and diphtheria, but not one from small-pox. These 68 deaths were equal to an annual rate of 1·9 per 1000, the mean rate from the same diseases in the 76 English towns during the same week not exceeding 1·2. The 24 fatal cases of measles in the Scotch towns showed a further decline of 10 from the numbers returned in recent weeks, and included 13 in Glasgow, five in Edinburgh, three in Paisley, and two in Aberdeen. The deaths from whooping-cough, on the other hand, which had been 13, 18, and 12 in the three preceding weeks, rose again to 20 last week, of which 11 occurred in Glasgow, three in Edinburgh and in Aberdeen, and two in Dundee. Of the 13 deaths attributed to diarrhœa nine were returned in Glasgow. The five deaths referred to "fever" were all certified as cerebro-spinal meningitis, and all occurred in Glasgow. The three fatal cases of scarlet fever corresponded with the number in the previous week, while the three referred to diphtheria showed a decline of four, and included two in Glasgow and one in Paisley. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 121 and 113 in the two preceding weeks, further declined to 107 in the week under notice, and were 20 below the number returned in the corresponding week of last year. The causes of 25, or 3·8 per cent., of the deaths in these eight towns during the week were not certified or not stated; in the 76 English towns the proportion of uncertified causes of death in the same week did not exceed 1·2 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 23·1 and 21·1 per 1000 in the two preceding weeks, rose again to 21·9 in the week ending May 2nd. During the first five weeks of the current quarter the death-rate in Dublin averaged 22·9 per 1000; the mean rate during the same period did not exceed 15·5 in London and 16·0 in Edinburgh. The 166 deaths of Dublin residents registered in the week under notice showed an increase of six upon the number returned in the previous week, and included ten which were referred to the principal epidemic diseases, showing an increase of three upon the number in each of the two previous weeks. These ten deaths were equal to an annual rate of 1·3 per 1000, the rate during the week from the same diseases being 1·4 in London and 1·3 in Edinburgh. Of these ten deaths from epidemic diseases in Dublin three resulted from whooping-cough, three from diarrhœa, two from diphtheria, and one each from "fever" and measles, but not one either from scarlet fever or small-pox. The two fatal cases of diphtheria were the first recorded in Dublin since the middle of March. The 166 deaths from all causes in the city during the week included 28 of infants under one year of age and 46 of persons aged upwards of 60 years; both these numbers exceeded those in the previous week. Six inquest cases and three deaths from violence were registered, and 75, or 45·2 per cent., of the deaths occurred in public institutions. The causes of three, or 1·8 per cent., of the deaths registered in the city during the week under notice were not certified; the causes of all the 1474 deaths in London last week were duly certified, while in Edinburgh 6·0 per cent. of the causes of death were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeons: J. H. Stenhouse to the *President*, additional, for Greenwich Hospital School and R.N. College; W. Bett to the *Leviathan*; E. S. M. Nepean to the *Victory*, additional, for Portsmouth Dockyard; and J. Shand to the *Africa*. Staff-Surgeons: R. D. Jameson to the *President*, additional, for three months' course at the Dreadnought Hospital; F. H. Nimmo to the *Alexandra*, on commissioning; F. R. Mann to the *Excellent*; and H. W. M. Rees to the *Orion*. Surgeons: R. H. St. B. E. Hughes to Malta Hospital; W. C. B. Smith to the *Vernon*, additional, for the *Niger*; A. D. C. Cummins to the *Dreadnought*; and R. W. B. Hall to the *Enchantress*.

ROYAL ARMY MEDICAL CORPS.

Major George Dansey-Browning, from the Seconded List, to be Major (dated April 5th, 1908).

The following officers have been attached to the depôt at Aldershot for a special course of instruction under Major J. D. Ferguson, Chief Instructor:—Captain C. P. Connolly, Captain H. H. Kiddle, Captain R. H. Lloyd, Captain W. A. Woodside, and Lieutenant J. C. L. Hingston.

Captain A. J. W. Wells has been posted to the Cambridge Hospital, Aldershot, for duty. Lieutenant-Colonel W. Rowney has been appointed Medical Officer in charge of the Connaught Hospital, North Camp, Aldershot, and to command No. 2 Company.

DEATHS IN THE SERVICES.

Deputy Surgeon-General William Silver Oliver, A.M.D., retired pay, at Farnborough Park recently, aged 72 years. He entered the service as assistant surgeon in 1857; became surgeon in 1872; surgeon-major in 1873; brigade-surgeon in 1882; and retired with the honorary rank of deputy surgeon-general the following year. He served in the campaign in Rohilkund in 1858, including the actions of Bugawalla and Nugena, the relief of Moradabad, the action on the Dojura, the assault and capture of Bareilly, the attack and bombardment of Shahjehanpore, the capture of Fort Bunnai, the pursuit of the enemy to the left bank of the Goomtee, the destruction of Fort Mahomdee, the attack on and destruction of Shahabad, and the action of Bungkagong. He also served in the Oude campaign, including the actions of Pusgaon and Rissoolpore, the attack and capture of Fort Mittowlie, and the actions at Mehundee and Biswah (mentioned in despatches and medal). He served with the 1st Battalion 60th Rifles in the Red River Expedition in 1870.

THE SPECIAL RESERVE OF OFFICERS.

A special Army Order containing a Royal Warrant has recently been issued authorising the formation of a Special Reserve of Officers and a further step has consequently been taken towards the organisation of the Special Reserve. The Army Order in question dealing with all branches of the service is necessarily a long one, but it contains many points directly bearing upon the Royal Army Medical Corps and should consequently be consulted by those whose interests may become affected. The following paragraphs should be noted:—

RETIREMENT.

An officer appointed to our Royal Army Medical Corps or Army Veterinary Corps shall relinquish his commission on reaching the age of 55.

EMOLUMENTS IN TIME OF PEACE.

Servant allowances shall not be issuable except to an officer of our Royal Engineers, Army Service Corps, Royal Army Medical Corps, or Army Veterinary Corps, who is attending an authorised course at a school of instruction where a soldier servant cannot be provided.

On being gazetted to a commission on probation a Special Reserve officer shall be granted an outfit allowance of £20, if on probation for our Army Service Corps, Royal Army Medical Corps, or Army Veterinary Corps, provided that he shall undertake in writing that, in the event of his failing from any cause to complete a period of four years' service in the Special Reserve from the date of joining, he will refund one-fourth of the allowance for each year or portion of a year by which his service falls short of such period. In cases of sickness the refund, or a part thereof, may be waived at the discretion of our Army Council. This allowance shall not be granted to any officer who is a candidate for a permanent commission on the active list of our Regular Forces.

After the date of this Warrant no further commissions will be granted in the Army Medical Reserve under the conditions of Articles 640–644 of the Pay Warrant, 1907.

ROYAL ARMY MEDICAL CORPS CAMPS.

A camp of instruction for the Royal Army Medical Corps is to be formed at Salisbury Plain on June 1st, lasting for about six weeks. The previous camps for the Royal Army Medical Corps have proved so successful in a training sense that they will now be held annually. A camp of instruction for the field training of the Royal Army Medical Corps will also be held at Bulford from June 1st to July 11th. The approximate strength of the party undergoing instruction will be ten officers and 182 of other ranks drawn from the various outstations of the Southern Command.

Correspondence.

"Audi alteram partem."

EPILEPSY AND MIGRAINE.

To the Editor of THE LANCET.

SIR,—In view of the recent publication of Sir W. Gowers's lectures on the Borderland of Epilepsy, the following cases illustrative of an intimate relationship between migraine and epilepsy may be of interest:—

CASE 1.—A woman, aged 42 years, on the appearance of the catamenia at the age of 15 years, began to suffer from fits of an epileptic character, which continued on an average once a month, till the age of 21 years, when they ceased altogether. Usually before the onset of the fit she suffered from headache. On the cessation of the fits, however, the headaches became more and more frequent and gradually assumed a definitely migrainous character. When an attack occurs she usually wakes early in the morning with her head feeling like an iron ball and the shoulders and neck as if in an iron vice, then she sees silver specks and zig-zag lines before the eyes, followed by severe pain in the forehead and vomiting a few hours later, after which she is quite well again. Thus migraine has become the predominant feature of a case originally epileptic. The more usual sequence of events, however, is for a patient with migraine to become epileptic. In this case the father and a paternal aunt suffered from gout, a common antecedent of migraine.

CASE 2.—A woman, aged 25 years, when 19 years old, had an epileptic fit for the first time, following a fright. Since then she has had a fit on an average every four months and once as many as ten in a day. The aura preceding the fit is peculiar in that it lasts about an hour and is of a migrainous type; then there are zig-zag lines of flame in front of the left eye, which then pass to the right, the left arm feels drawn and the left heel as if glued to the ground. This condition lasts for about an hour, during all which time she has a severe headache across the eyes and back of the head. After the fit she always vomits and is free from headache. The case shows a curious blending of epilepsy and migraine. Both the duration and character of the aura seem to be migrainous and the vomiting belongs to migraine rather than to epilepsy. It would seem as though an ordinary attack of migraine were interrupted, so to speak, by the motor phenomena of epilepsy. On the other hand, since the commencement of these attacks the patient has become very irritable, a feature suggestive of epilepsy, not of migraine.

CASE 3.—A woman, aged 19 years, when 11 years old, began to suffer from epileptic fits which continued for a few months. At the age of 17 years she began to have headaches of a migrainous character, waking up in the morning with a visual spectra—teichopsia, half an hour later she has a headache lasting 12 hours, followed by sickness. These attacks occur about once a fortnight. Lately the epileptic seizures have begun again and exhibit almost as marked a periodicity as the migrainous headaches, always beginning about 5 A.M. and seeming to take the place of the sensory attack. The father suffers from asthma, a disease which has affinities with both epilepsy and migraine.

CASE 4.—A boy, aged six years, for the last three years has suffered from paroxysms of headaches once a week. The headache generally begins in the forenoon, gradually growing worse towards the evening; usually he is sick at an early stage of the headache and before being sick he says that everything seems "to go red in front of him." The following day he is tired and languid, but there is no headache. Within the last few months he has had two epileptic fits and the paroxysmal headaches have become less frequent. Often on the evening prior to the migrainous attacks he has had an attack of night-terrors, which are sometimes suggestive of epilepsy.

Some observers have noticed instead of the usual periodicity of migraine a continual succession of the attacks which has been called the "status hemicranicus" by the school of Charcot, on the analogy of the "status epilepticus." Möbius quotes a case in which the patient had five attacks of migraine in five successive days. After an interval of some months there was another series, which led to a kind of stupor, and finally there was a third series consisting of nine attacks in four days; at the same time there was a complete hemiplegia.[1] Kraft-Ebing speaks of epileptic hemicrania and hemicranial epilepsy having the same visual aura and seems to imply that there is but one disease, though sometimes migrainous, at others epileptic symptoms predominated in a given case; he says that the visual aura may occur alone or end in a hemicranical or epileptic attack or both.[2]

I am, Sir, yours faithfully,

Green-street, W., May 4th, 1908. R. O. MOON.

WORTH'S ADVANCEMENT OPERATION.

To the Editor of THE LANCET.

SIR,—I have at least as great an objection to *ex cathedrâ* statements as Mr. Claud Worth and I may point out that anonymity finds its justification in the elimination of personal motives which are, at any rate, absent in the present instance. The fallacy which in my opinion characterises Mr. Worth's in common with many other advancement operations is that in the ordinary operation the stitches tear out through the muscle and thus lead to an unsatisfactory result. I am convinced that failure is not due to the stitches tearing out through the muscle, which is supported by resistant connective tissue, but to their giving way at their anterior attachment. Here, unless a firm hold is obtained upon the episcleral tissue the stitch is almost certain to cut out, no matter how secure may be its attachment to the muscle. Mr. Worth has mentioned the chief objection to his operation, and if it is carefully considered it is no small one. His knots strangle the lateral parts of the muscle which must necessarily atrophy and are further lacerated in removing the stitches. For my part I am convinced that the secret of success in advancement operations is obtaining a firm hold on the episcleral tissue. I do not propose to pit any individual surgeon's practical experience against Mr. Worth's, for in such matters there is but little faith to be put in personal authority. It is the duty of every surgeon to weigh the advantages and disadvantages of any given procedure and to adopt the method which appears to him to be best.

I am, Sir, yours faithfully,

May 2nd, 1908. YOUR REVIEWER.

THE ROYAL SOCIETY OF MEDICINE AND THE MEDICAL SOCIETY OF LONDON.

To the Editor of THE LANCET.

SIR,—I should like to suggest through the medium of your columns, to the Fellows of the Medical Society of London, that the time has come to consider further whether they are acting in the best interests of the society as a whole in holding aloof from union with the Royal Society of Medicine.

The reasons, so far as one could gather, which led to their attitude at the time of the inception of the latter society were mainly financial but I think that the remarkable success which has attended the formation of the Royal Society must have put any question of its financial stability quite out of court, while sentimental considerations which may not unnaturally have weighed with the older members should not be allowed to assume an undue prominence. Apart from my own personal feelings, conversation with other Fellows of the society has shown me that a strong feeling exists (which in many cases will develop into withdrawal from membership) that the interests of the society and of its members would have been better served by union, and certainly the opinion of the Fellows which was taken by means of postcards showed a very large majority in favour of amalgamation. The general meeting which was called to consider the question was, however, chiefly attended by the opponents of the scheme, very many of its advocates failing to attend from a belief that amalgamation was a foregone conclusion.

There is no doubt that the majority of those who favoured union will, like myself, still stick to the Medical Society, but there can hardly fail to be a serious falling off in the number of new members, since the Royal Society is able to offer so much more to its Fellows, while the Medical Society can offer little if anything which cannot be obtained by the Fellows of the amalgamated societies.

I would therefore suggest that the matter should be reconsidered while this can be done without loss of dignity, and that no pains should be spared to ascertain the opinion of the whole of the Fellows of the society, and I hope that other Fellows of the society will publish their views on this question.

I am, Sir, yours faithfully,

Buxton, May 3rd, 1908. CHARLES W. BUCKLEY.

[1] Nothnagel's Pathologie, vol. xii.
[2] Neurologisches Centralblatt, 1895.

A NOTE ON THE TREATMENT OF DIPHTHERIA.

To the Editor of THE LANCET.

SIR,—No remedy is more sorely needed than one which will relieve the distressing condition of heart paralysis in diphtheria. Several years ago Dr. J. D. Rolleston[1] warmly recommended adrenalin in this affection, and Dr. F. G. Crookshank has found occasion in your issue of April 25th to reaffirm his own convictions as to the great benefit of this treatment. In view of the importance of the question at issue it would not be right to allow these statements to pass without a thoroughly critical examination of the remedy suggested.

In the first place Rolleston's observations on the prophylactic and stimulant effect of the drug must have been received with some surprise, since the method of administration was by the mouth, and it is generally understood that by this channel the drug is practically inert, being either altered or unabsorbed. Dixon[2] found that, given by the mouth, adrenalin had no effect upon the blood pressure, even after the administration of one drachm—six times the maximum dose recommended. From experimental evidence, then, it seems most unlikely that any effect whatsoever is produced. Practically, I have given the drug a very fair test. In the course of a close study of the heart complications in more than 500 cases of diphtheria at Nottingham I had occasion to test the effect of adrenalin and several other cardiac tonics. Rolleston's directions were faithfully followed but nothing but negative results were obtained, the disease always pursuing its normal course, sometimes with bradycardia and low blood pressure and sometimes ending in collapse. It was evident, however, that the rise in blood pressure and pulse-rate that regularly occurs after the first week or so in hospital might easily be wrongly attributed to the effect of some cardiac tonic. I am aware, however, that Dr. Crookshank, while endorsing Dr. Rolleston's results, prefers hypodermic injections, combining the adrenalin with a little strychnine. But again we have the testimony of Dixon,[3] Janeway, Elliott, and others that the action of adrenalin injected subcutaneously is purely local, except in very large doses. Upon these two suggested improvements in his methods we might justifiably turn some soundly practical but drastic criticisms employed by Rolleston[4] himself in a similar connexion. Of the frequent hypodermic injection he hints that it is an "unjustifiable annoyance, since it interferes with the euthanasia which it is our duty to promote." And of strychnine—that "you might as well paint the bed with it!" I might continue in the same happy vein and say of adrenalin something about its perfect harmlessness as a beverage.

As regards early heart paralysis and the inutility of cardiac stimulants it must be remembered that "cardiac depression" is a very misleading term to apply to this condition. It is not depression but actual *destruction* of tissue from which the heart suffers. This destruction is apparently progressive, as in other diphtheritic paralyses, and reaches its acme about the ninth or tenth day, as evidenced by appearances post mortem and by the fact that at this time the blood pressure and pulse-rate both reach their lowest points and the greatest number of deaths occur. All depressing toxic substances are presumably long since neutralised. I have little doubt from a keen study of these phenomena that the bradycardia of this period is Nature's rest-cure and, moreover, a contrivance for eking out the energies of the heart wall lest they should be spent before this danger-point is

[1] See article, Diphtheritic Paralysis, Practitioner, p. 794, vol. ii., 1904.
[2] THE LANCET, March 24th, 1906, p. 826.
[3] Ibid.
[4] Vide supra.

passed by and the processes of repair set in. Flogging on the heart by stimulants, when practically nothing remains to stimulate, can only prematurely deplete its energies; stimulants call forth but do not add to the energies of an organ. For my own part, after witnessing the uselessness of strychnine and other stimulants in several hundred cases, I have treated nearly 400 cases completely without these drugs and my results will compare favourably with any I have seen published. Unless a remedy can be found that will replace destroyed tissue cells with new ones it seems likely that the quest of a remedy for these cases will ever remain a hopeless one.

I am, Sir, yours faithfully,
OWEN H. PETERS, M.D., Ch.B. Melb., D.P.H. Lond.
Mansfield, May 4th, 1908.

FIFTY CASES OF SPINAL ANALGESIA.

To the Editor of THE LANCET.

SIR,—In my article upon Fifty Cases of Spinal Analgesia appearing in your issue of April 11th I made the statement that M. Billon had ceased to manufacture the stovaine solution himself and had handed over the work to a firm in Paris. This statement, which was offered as a possible explanation of what I supposed to be a certain feebleness in the analgesia resulting from the use of a second consignment of the solution from Paris, was made on the strength of what I believed at that time to have been reliable information. It gives me much pleasure to be able to contradict both statement and supposition. M. Billon, who has been courtesy itself in affording me assistance and in placing samples at my disposal, writes to me to say that not only has he never dissociated himself from the work but that he has been, since the beginning of 1907, director of the chemical laboratories of Messrs. Poulenc Frères in Paris, where the manufacture of the solution is entirely under his immediate direction and control. With regard to the supposed difference in strength of the solution above mentioned, I am satisfied by extended experience of the method that this supposition was an entirely mistaken one, and that it was partly due to faulty technique on my part, and partly to the fact that some patients are less susceptible to the drug than others and require a slightly larger dose.

I therefore hasten to offer an apology to M. Billon and beg you, Sir, to give early publicity to it, as I fear that my statement may quite unintentionally have produced a wrong impression and one which might prove detrimental not only to M. Billon himself but to the firm of Poulenc Frères.

I am, Sir, yours faithfully,
Mansfield-street, W., May 2nd, 1908. LAWRIE MCGAVIN.

DEATHS DURING ANÆSTHESIA.

To the Editor of THE LANCET.

SIR,—I have been deeply interested in the discussions that have recently appeared in THE LANCET on the subject of chloroform administration. In the letters that have been published many have expressed opinions more or less strongly on the cause of death from chloroform anæsthesia; a smaller number have given the bald details of how they themselves administer it, but no one, so far as I have noticed, has attempted to define or to criticise the underlying principles connected with the various practical methods of its administration. Now, these principles are of the utmost value for comparing the various methods and for devising new and safer methods, and I think that the statements given below must be productive, by means of the discussion I hope they will arouse, of some advance in our knowledge of practical chloroform administration.

The first method which I wish to criticise is one in common use and goes under the name of the "graduated series of drops" system. In this system one drop of chloroform to begin with is put on a piece of lint; after a few seconds two drops are added, then three drops, and so on till a maximum number of drops is reached. It is also recommended that after a short time the lint be allowed to rest lightly on the patient's face. The object is, of course, to begin with a very small dose and gradually increase it to a maximum. At first sight this appears quite rational, but I am convinced that the underlying principle is quite wrong. It is founded on the belief that you can talk of the dose of chloroform in the same practical sense that you can talk of the dose of digitalis or hydrocyanic acid. 15 minims of the tincture of digitalis will have the same effect on the heart, whether it be given in a teaspoonful of water or in a pint, but this is not the case with chloroform administered by inhalation. It is common knowledge that if chloroform be given in concentrated vapour it is much more dangerous than if given largely diluted with air. One drachm administered by one person may produce a fatal result in the same time that one ounce administered by another person does. I am quite aware that if this be reasoned out it will amount to a question of dosage, yet practically it is extremely misleading, especially to students and lay people such as coroners and their juries. The only justifiable term to use is percentage or concentration. Now to return to this graduated drop method, as we are told that after a few minutes the lint may be allowed to rest lightly on the face the system practically amounts to this, that the means of dilution of the chloroform is to remain the same throughout the administration, while the amount of chloroform is to be increased. It is important to grasp this as the principle is exactly the opposite of that in the next method to be described. Now if anyone will take the trouble to try this method on himself he will find that with the lint so close to his face it is almost impossible to get anything but a concentrated vapour even though only a couple of drops are put on the lint, and I am sure this will be greatly to the detriment of the patient's safety.

The other method is one I may say that is used in Edinburgh. The great underlying principle in this method is that the amount of chloroform used remains uniformly the same throughout the administration. Thus an equal amount of chloroform—say, half a drachm—is put on the mask at equal intervals, say, one minute. The varying percentage of chloroform vapour required for the case is got by altering the distance of the mask from the face (from two inches or more to half an inch). This method is the one that seems to me by far the safest, for one has only to try it on oneself with a Schimmelbusch's mask to be convinced that one can adjust the percentage of chloroform vapour inhaled much more accurately than one can by the graduated drop method. This method has been accused, especially by the advocates of the drop method, of being unscientific, but I am sure the above remarks will show that it is essentially scientific and a method thoroughly to be recommended.

I am, Sir, yours faithfully,
April 30th, 1908. M.B. EDIN.

DIRECT MEDICATION OF INTESTINES.

To the Editor of THE LANCET.

SIR,—Metchnikoff's contention that most of the diseases which afflict the human family may be ascribed to the bacterial flora of the large intestine is coming to be considered plausible. Autotoxæmia due to the presence of bacteria in the colon, "that clumsy effort of the evolutionary process," is probably far more common than is generally supposed. The Russian biologist believes that a future age will be able to remedy by surgical procedure the imperfect attempt of nature to provide an efficient *cloaca maxima* for man. Meanwhile intestinal germicides and disinfectants offer a reasonable means of combating some of the evils caused by the parasites in our system. For direct medication of the intestines keratine has long been used to enwrap drugs intended to pass through the stomach unaffected by its acid secretions, but readily soluble in the alkaline juices of the bowels. In the treatment of a case of mucoid colitis I have lately prescribed salol in five grain doses inclosed in membranous envelopes. A great improvement was quickly noticed in the condition of the patient, due, I believe, to the action of the phenol liberated by the disintegration of the salol in the intestines. In my opinion very good results are to be expected in this comparatively fresh field of therapeutics. It would be interesting to experiment systematically with lactic acid as an intestinal germicide.

I am, Sir, yours faithfully,
April 17th, 1908. M.D.

MEDICAL DEFENCE UNION.—The annual general meeting of the Medical Defence Union will be held on May 21st at the Medical Institution, Hope-street, Mount Pleasant, Liverpool, at 4.30 P.M. The annual report of the council, together with the balance-sheet and accounts as certified by the auditors, will be presented to the members and the usual statutory business as required by the articles of association carried out.

THE TWENTY-FIFTH CONGRESS OF INTERNAL MEDICINE.

(FROM OUR VIENNA CORRESPONDENT.)

THE Twenty-fifth Congress of Internal Medicine was opened on April 6th in the large Hall of Ceremonies of the University of Vienna. This was the second meeting of this Congress in Vienna. The first occasion was in 1890, when Professor Billroth and Professor Nothnagel were present, and the words of the former with which he opened the proceedings are true for all time: "Science has but one object—truth combined with clarity; and the duty of the medical practitioner is to apply this combination to the welfare of humanity." The opening scene of the Congress presented an impressive spectacle, and all the meetings, which were continued from April 6th to 10th, were a conspicuous success. Medical and scientific men from all German-speaking countries had assembled to discuss questions of professional interest, a few of the better-known German visitors being Dr. Leube (Würzburg), Dr. Penzoldt (Erlangen), Dr. Stintzing (Jena), Dr. Quincke (Kiel), Dr. Pfeiffer (Wiesbaden), Dr. Hering (Prague), Dr. Lenhartz (Hamburg), Dr. Schwalbe (Berlin), and Dr. Krehl (Heidelberg). The visitors from other countries included Professor William Osler (Oxford), Dr. A. S. F. Grünbaum (Leeds), Dr. Pratt (Boston, U.S.A.), Dr. Poehl (St. Petersburg), and Dr. Turban (Davos). Naturally enough, all the professors of the Vienna Medical Faculty were present and took an active part in the work of the Congress. One of the accessories was an exhibition of objects of medical interest arranged by Professor Schlesinger. The Minister of Education welcomed the Congress on behalf of the Government. After the PRESIDENT, Professor Müller (Munich), had opened the Congress the MINISTER addressed the members, of whom about 500 were present. He said that the Government paid the closest attention to medical matters and he wished the members of the Congress to visit the newly opened clinics in order to satisfy themselves that Vienna was not behind other cities in providing adequate opportunities for medical study. The high position which the Vienna Medical School has hitherto occupied would be certainly maintained now that the old General Hospital was replaced by a modern building and that men of eminence had so many inducements to take up their abode in Vienna. The bürgermeister (mayor) then spoke some words of welcome and invited all the members of the Congress to a banquet given by the city in their honour. The last official speech was delivered by Dr. URIEL, general staff surgeon, who in the name of the Minister of War wished the Congress every success. He said that the Army Medical Corps had been watching with the utmost interest the progress which had been made in practical and scientific medicine during the past few years. The increased knowledge of prophylaxis had caused a revolution in the methods of military sanitation and their application in future wars would result in a great reduction of the mortality incidental to campaigning. The Congress then proceeded to practical work, commencing with the official subjects of discussion.

The Relation of the Female Sexual Organs to Internal Diseases.

After a short address by the PRESIDENT on Specialism in Internal Medicine a discussion on the Relations of the Female Sexual Organs to Internal Diseases was opened by Professor ROSTHORN (formerly of Heidelberg but now of Vienna) and Professor LENHARTZ. The first-named speaker confined himself entirely to anatomical details, only referring to well-known conditions, but his lucid exposition touching on a number of interesting points, principally on the relations of pregnancy to cardio-vascular and renal diseases, was well received by his hearers. Professor Lenhartz, who was the next speaker ("co-referent"), dealt especially with the treatment of gynæcological affections in their relation to internal diseases. He strongly condemned the methods of some surgeons who performed operations which might be avoided; he asserted that in this particular all the eminent gynæcologists were of the same opinion as himself and he added that "polypragmasia" was only too well known in large cities. He maintained that in the majority of cases disorders of the sexual organs were not the cause but symptoms of grave nervous debility, and required not local treatment by a specialist but the use of tonics and measures likely to increase the strength. Symptoms suggesting hysteria or neurasthenia should be carefully analysed before resorting to the knife.

Dr. PLOENIES (Dresden) read a paper on the Relation between Menstruation and Diseases of the Stomach. He had observed that sometimes copious bleeding from the stomach—true hæmatemesis—occurred before and after the regular flow of the menses, and he attributed it to hypertonus of the blood-vessels regulated by the splanchnic and hypogastric plexuses. Diseases of the stomach, such as dilatation, hyperacidity, and nervous irritability, were often increased just before the appearance of the menses. Other observers had seen febrile icterus preceding the menstrual flow by six or eight days.

Dr. TUSZKAI (Marienbad) read a paper on the Relation between Pregnancy and Heart Disease. He said that whilst menstruation in a patient suffering from heart disease was often postponed and belated in the first instance the quantity was increased, and sometimes copious menstruation acted as a safety valve like venesection. The progress of pregnancy in such women was dependent on the degree of compensation and the prognosis was not so bad as was formerly believed. Even five or six labours might occur without the patient breaking down, provided that labour was not too difficult. Where this was to be feared premature labour must be induced before the fœtus had grown too large.

Dr. TURBAN read a paper on the Relation between Pregnancy and Pulmonary Tuberculosis. He said that tuberculosis was prejudicially affected by pregnancy and when the disease had attacked the lungs and was in an advanced stage the puerperium was a source of danger. If a child was born it should not be suckled by the mother. This, however, was not necessary in the case of thin women who were anæmic without being tuberculous.

Some papers on the Appearance of Albumin during Menstruation and of Graves's Disease complicating Gravidity were read but they were of minor importance.

In the afternoon the discussion was continued. Dr. HOFBAUER (Vienna) read a paper on Sexual Asthma. He said that, notwithstanding the absence of the crystals and of bronchitic symptoms, the aggregation of symptoms must be called asthma on account of the changes of the elasticity of the lungs. Acute emphysema had been noticed, caused by increase of the inspiratory volume of air due to lessened contraction of the diaphragm, which was under the influence of the cortex of the brain. X ray examination was useful in the investigation of these cases.

Dr. SINGER (Vienna) read a paper on Climacteric Diseases of the Bowel. He said that according to his observations in cases of early cessation of the menses, such as at the age of 35 or 40 years, meteorismus was likely to appear, which two symptoms together might cause an erroneous diagnosis of pregnancy to be made. Hæmorrhages from the intestines also appeared sometimes at the climacteric; they were caused by small erosions or ulcerations, mostly situated at the sigmoid flexure which was very often compressed by fæcal accumulations, owing to diminution of the contractile power of the muscular coats of the intestine. These hæmorrhages might lead to a mistaken diagnosis of tumour, but appropriate treatment such as massage, electricity, and aperients would bring about recovery in a few weeks.

On the evening of the first day the members of the Congress were entertained at a banquet provided by the city of Vienna in the Rathhaus which is a magnificent Gothic building. The fine Festsaal or Hall of Ceremonies, one of the largest in Europe, with its 2000 electric lights, presented a splendid spectacle. The company numbered upwards of 500, since many of the medical men had brought their ladies. The bürgermeister, who is himself under medical treatment on account of diabetes with ocular complications, welcomed the guests in a humorous speech, wishing them all success in their endeavours to elucidate the cause of diseases and their treatment for the benefit of all sufferers, himself included. Several toasts were drunk in honour of the Emperor, the Government, and some eminent physicians.

The second day was chiefly occupied, first, by the reading of a paper on

The Present Position of the Pathology and Treatment of Syphilis,

by Professor NEISSER (Breslau), and, secondly, by the ensuing discussion. Professor Neisser said that three important advances had been made by science in the recognition of the nature of this disease—namely, Schaudinn's discovery of the spirochæta pallida as the cause of syphilis, which was now accepted as proved;

Metchnikoff's discovery that apes could be infected with this micro-organism; and Wassermann's discovery that the blood serum of syphilitic persons had a specific reaction. The essential character of syphilis always remained the same and there was no qualitative difference between slight and severe manifestations of the infection. The modern idea was to make a correct diagnosis as early as possible and to begin treatment at the very first opportunity. Intermittent treatment was not advisable. Animals infected with syphilis and treated after seven days with injections of atoxyl might escape infection on account of the spirochæta being killed before the disease had spread in the body. Atoxyl was the best remedy, at least in the lower animals. It must, however, be employed cautiously in men, for blindness has been caused more than once by it. Mercury, iodine, and quinine were also very useful. Patients should be treated with as much mercury as they could tolerate, for the spirochæta could, and must, be killed in the tissues. The expectation of an effective serum treatment of syphilis had not hitherto been realised, but Professor Neisser was convinced that such a method would in time be discovered and that then nothing but the initial stages of syphilis would be seen by medical men, as the later stages would disappear under the new treatment.

An animated discussion ensued on the merits of Wassermann's reaction.

Dr. SALOMON believed that only very pronounced reactions were convincing, because slight or medium results might be obtained in persons suffering only from tumours or tuberculosis.

Dr. SPIEGLER (Vienna) said that he had examined the chemical constitution of syphilitic blood and had found that the proportion of the albuminoid bodies of the serum was variable, whilst in normal blood serum the proportion was always the same.

Professor ZINGER (Vienna) spoke on the inoculation of apes with syphilis. He said that successful inoculations were now the rule and the initial lesions were very similar to those found in the human infection.

Dr. CITRON (Berlin) and Dr. LENZMANN (Duisburg) had had similar experiences.

In the afternoon Dr. HERZ (Vienna) read a paper on

Certain Heart Diseases

the cause of which was found in insufficiency of the space at the disposal of the expanding and contracting heart, especially through the person sitting in a faulty position when engaged in writing, drawing, or other sedentary work. Dentists were often victims to this kind of heart disease from the constantly bent position of the upper part of the body. The action of the heart was insufficient, not from weakness, but because the muscle could not exert its full power owing to its being hemmed in. Diseases of the stomach and the intestinal canal could by pushing the diaphragm up produce a diminished working space for the heart.

Professor EHRMANN (Potsdam) read a paper on the Correlation between Glandular Organs and other Parts of the Body. He has found that the internal secretion of the thyroid and the sexual glands was influenced by the nervous emotions, but, on the other hand, they influenced the nerves as well.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

THE summer term commenced on April 22nd and at once both the old and the new university buildings were overflowing with active and earnest life, for the summer term brings to a head the work of the year and the culmination is reached when the examinations begin in June; in other words, the time available for the completion of the work which must precede the examinations varies from seven weeks in the cases of some of the arts and science subjects to eight or nine weeks in the medical subjects. With the point of their endeavour so nearly before them the students throw more energy into their work than in the two previous terms and thus the summer term is the most interesting term of the year. In addition to the ordinary class work necessary for admission to examinations Professor T. Turner is to deliver a series of lectures on Metals and Alloys, which are open to the general public, and the Ingleby lectures, which are open to all members of the medical profession, will be delivered on Thursdays, May 7th and 14th, by Mr. Christopher Martin who has chosen as his subject Myoma of the Uterus. A very important change has recently been made in those regulations of the University which deal with the admission of graduates of other universities to the Master's degree. Hitherto a course of two years of study has been demanded from such graduates before they were admissible to the examinations for the Master's degree but the new regulation reduces the period of study to one year. The change has been made with the object of encouraging intercourse between the various universities and with the hope that graduates of other universities may be induced to make use of the unrivalled advantages which can be obtained in Birmingham. It should be clearly understood, however, that the reduction of the period during which the studies must be carried out in Birmingham in no way diminishes the high standard which the candidates have to attain before they are admissible to the Master's degree.

The Birmingham Sanatorium for Consumptives.

At the inquiry concerning the application of the corporation for powers to borrow £8500 for the purpose of erecting a sanatorium at Leckhampton, which was held on Friday last, it was pointed out to the Local Government Board inspector, Dr. H. Timbrell Bulstrode, that it was intended to provide accommodation for 40 patients, and that it was important that the buildings should be finished during the summer so that they might be available for use next winter. Evidence was produced to show that an ample water-supply was available, that the buildings would be practically fireproof, that the sewage would be dealt with by the septic system, and that the effluent would be discharged on to suitable land. So far as the staff is concerned it was stated that, in the first instance, it was the intention of the council to appoint a medical superintendent, a matron, and two nurses, but if this staff proved to be inadequate it would be increased.

The Stamping-out of Glanders.

On Jan. 1st, 1908, the Glanders and Farcy Order came into operation. The Order makes it compulsory for local authorities to destroy all horses, asses, or mules affected with glanders or farcy and to pay compensation out of the local rates. The minimum amount of compensation payable for a clinically diseased animal is £2 for each horse and 10*s.* for each ass or mule, and if the amount of compensation exceeds the minimum it is not to exceed one-fourth of the value of the animal before it became diseased. All horses, asses, or mules believed to have been in contact with diseased animals are to be subjected to the mallein test and those which react in such a manner as to suggest that they are affected are to be slaughtered. When the post-mortem examination shows that the animal was affected the compensation to be paid is to be one-half of the value of the animal immediately before it was tested, but not exceeding £25 for a horse or £6 for an ass or a mule, but if the post-mortem examination fails to demonstrate the disease full value is to be paid, but not exceeding £50 for a horse and £12 for an ass or a mule. The markets and fairs committee reports that the cost falling upon the city under this Order for the period from Jan. 1st to March 31st has been £616 10*s.* The committee expresses its agreement with the Local Government Board regarding the importance of the eradication of the disease and the efficacy of the measures adopted, but considering that the matter is one of national importance it is of the opinion that a substantial part of the cost should have been made a charge upon money provided by Parliament, and it expresses regret that the Government has not sanctioned such a provision. Fortunately Mr. Malcolm, the veterinary inspector, is inclined to think that the worst is over and that the number of cases will be comparatively small in future, and if his prediction is verified it may be considered that a very valuable result has been gained at a comparatively slight cost.

Scarlet Fever in West Bromwich Workhouse.

The West Bromwich board of guardians have very wisely decided to suspend visiting until further notice. The reason for this decision is that scarlet fever has been introduced into the workhouse, apparently by visitors, at least that is the master's opinion, which he justifies by the fact that at the very outset of the outbreak a child was attacked who had

never been outside the workhouse for three and a half years. Whether the disease was introduced by visitors or not the decision to prohibit visiting whilst it exists is a wise precaution which cannot be the cause of any great hardship either to inmates or to visitors.

The Walsall and District Hospital.

The efficiency of any hospital depends very largely upon the amount of its income, and that being so the alarm of the treasurer of the Walsall and District Hospital at the result of the last quarter's work can easily be understood. The income of the hospital for the quarter was £452, the expenditure was £1197, and the adverse balance had increased to £1604, or £900 more than 12 months ago. It is true, as the chairman pointed out, that the hospital possesses a reserve fund of £20,000, but it is obvious that a considerably increased annual income is necessary or the reserve fund will have to be drawn upon heavily if the work of the institution is to proceed in a satisfactory manner. In the circumstances the decision to appoint a committee to canvass the town and district for subscriptions is wise and it has not been arrived at too soon.

The Health of the City.

The health of the city has improved rapidly during the past two weeks and the death-rate has fallen from 18·3 to 15·9 per 1000. The epidemic of influenza is becoming both less prevalent and less virulent. Scarlet fever, measles, and diphtheria are on the wane and there are hopes that with improving weather we may look forward to more normal conditions of health. The epidemic of scarlet fever reached its height in November last, when the medical officer's report stated that the disease was "more prevalent than at any period during the last five or six years." After Nov. 26th the decline commenced and with a few occasional exacerbations it has continued. 81 cases had been notified in the week preceding Nov. 26th and there were then 602 cases in the scarlet fever hospital. By the end of January the number of cases in the hospital had fallen to 502; at the end of February to 355; at the end of March there were 428 cases, and on Saturday last the number of cases in hospital had decreased to 403, whilst during the week only 39 cases had been reported. We shall probably now pass into a period of comparative immunity but unless some new and important discovery is made in association with the means by which the disease is spread the period of immunity will be followed sooner or later by another epidemic.

The Health of King's Norton.

From the yearly report of Dr. Reginald Green, the medical officer of health of the King's Norton and Northfield urban districts, it appears that during the year 1907 the birth-rate of the districts decreased 1·15 per 1000 as compared with the previous year, and the general death-rate increased from 9·97 to 10·78 per 1000. The infant mortality rate was 105 per 1000, the same as in the preceding five years. The increase in the general mortality rate does not seem to be ascribable to any special cause and apparently any efforts which may have been made to reduce the infantile mortality have been ineffective.

May 5th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

Appointment of Dr. G. R. Murray to the Chair of Systematic Medicine in the Victoria University of Manchester.

THE profession in Newcastle and neighbourhood will deeply regret the loss of Dr. George Redmayne Murray who has accepted the invitation of the council of the Victoria University of Manchester to become the professor of systematic medicine in that University and, *ex-officio*, full physician to the Royal Infirmary at Manchester. The University of Manchester is heartily to be congratulated upon having secured the services of Dr. Murray and the latter is to be congratulated equally heartily upon having been invited to fill this important and interesting position—the invitation itself being a well-deserved tribute to his work in the past. It is understood that as the new infirmary buildings in Manchester will not be opened until October Dr. Murray will not sever his connexion with the Royal Victoria Infirmary and College of Medicine in Newcastle until towards the end of September.

The Arrangement in Manchester between the University and the Infirmary with Regard to the Chairs of Systematic Medicine and Surgery.

The arrangement which exists in Manchester between the authorities of the University and the authorities of the infirmary, by which the professor of systematic medicine and the professor of systematic surgery are *ex-officio* full physician and full surgeon respectively to the infirmary, is one which might be considered with advantage by other provincial universities when considering any future reorganisation schemes. In Manchester a regulation is in existence under the provisions of which a physician or a surgeon to the infirmary on attaining the age of 60 years retires from his appointment, and this regulation is also applicable to the physician or surgeon who holds the chair of systematic medicine or systematic surgery—on retiring from the infirmary he retires also from his professorship. In this way a very close connexion is maintained between the university and the infirmary in Manchester, which must be of the greatest benefit to both institutions. An age limit also allows of the introduction of younger men more frequently than when no age limit exists, and as in most, if not in all, places an age limit exists for members of the staffs of the various hospitals it follows that unless both appointments are laid down together the teaching will, or at least may, be continued by a man who has retired from the more active and practical part of his work, and this for obvious reasons is not in the best interest of the student, for whose benefit, after all, all professorships exist. In most other subjects an age limit for retirement is not yet possible on financial grounds. But in the case of professors of medicine and surgery the holders of these appointments are the leaders of the profession and the income which they enjoy from private practice should allow of provision being made for the time when they will have retired, which is not the case in many of the subjects of the medical curriculum, where the head of the department is paid a comparatively small fixed salary which in most cases is barely more than enough to pay his expenses. But though an age limit for retirement may not be possible in, for instance, the subject of pathology, the argument for the arrangement whereby the head of the department of pathology in the school shall also be *ex-officio* head of the same department in the infirmary is just as strong as, if not stronger than, in the case of surgery and medicine.

May 5th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Housing in Merthyr.

THE Merthyr corporation is extending its building operations in the direction of erecting 38 workmen's houses at an estimated cost of £7650 upon land which it is proposed to lease at an annual rental of 1½*d.* per square yard. It is intended to charge a weekly rental of 6*s.* for each house. In 1902 the corporation built 100 houses which are now let at about the same rent. In his recently issued annual report the medical officer of health (Dr. Alexander Duncan) states that during 1907 there were 72 houses closed as uninhabitable and 65 others which he reported as being unfit for habitation were put into a proper condition. Although there is some improvement over former years there is still a large amount of overcrowding in the borough but the activity of the council is apparently having a good result. A charge has frequently been made, and has quite recently been repeated, against the owners of houses who are also tradesmen that the tenants are compelled to make weekly purchases at the shops owned by the landlords, and that in default of doing so the tenants are given notice to leave their houses. It is obvious that if such a custom is prevalent it is open to the gravest abuse and steps should be taken to put a stop to it.

Newport Sanatorium for Poor-law Patients.

The sanatorium established, apart from the workhouse, for consumptive patients under the care of the Newport board of guardians has now been occupied about four months. During that period 32 persons have been admitted for treatment, of whom four died and nine have been discharged. A great many of those received had been ill for some considerable

time but of the nine patients discharged two appeared to have recovered completely and four showed signs of great improvement. Mr. Edward Hughes, the medical officer to the institution, appears to be quite satisfied with the results attained in the short period that has elapsed since the first patients were received and in a report to the board of guardians he points out that if these 32 patients had been treated in the ordinary wards of the workhouse infirmary they might have infected other patients who were suffering from curable diseases.

West Wales Sanatorium.

It is satisfactory to find that the Carmarthen county council has at last been prevailed upon to make a contribution towards the West Wales sanatorium for consumptives. Proposals to subscribe towards the erection of the building have on previous occasions been defeated but at a meeting of the council held on April 29th it was unanimously decided to contribute £150 annually on the understanding that two beds should be at the disposal of the county council. It is expected that the institution will be opened during the third week in July. In the previous week the Royal Sanitary Institute will be holding its annual congress in Cardiff and arrangements will no doubt be made for an inspection of the buildings by those attending the meeting whose interests lie in that particular direction.

Medical Inspection of School Children.

At the meeting of the Bristol education committee held on April 30th it was decided to appoint five "part-time" medical officers as inspectors of school children at salaries of £100 per annum, one at least of these officers to be a woman. It is proposed that each officer shall devote to this special work between two and three hours per day for three days of the week. In addition two health visitors, who will be certificated nurses, are to be appointed at annual salaries of £70 each.

The late Mr. David Lloyd.

Mr. David Lloyd died suddenly from heart failure on April 28th at Carmarthen. The deceased, who was 56 years of age, had for many years practised at Newcastle-Emlyn, where he was medical officer of the Newcastle-Emlyn rural district council; he had also recently been appointed medical inspector of schools by the Carmarthenshire county council. In 1897 he was chairman of the Cardiganshire county council and was presented to the late Queen Victoria in that year. He was on the commission of the peace for the county of Cardigan. Mr. Lloyd was highly esteemed at Newcastle-Emlyn and much sympathy is felt for his widow and three children.

May 4th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Alterations in Public Appointments following on Sir Henry D. Littlejohn's Resignation.

Sir Henry D. Littlejohn held the double office of medical officer of health and police surgeon to the city of Edinburgh. It has been wisely decided to separate these two posts for the future. The medical officer of health will in future confine himself to the duties of that office, excepting in so far as he has direct sanction to go beyond them. This reservation is desirable in Edinburgh for the medical officer of health of the city might very suitably be a lecturer in the Extra-Mural School. As regards the police surgeoncy the city is to be divided into four districts with a police surgeon in each, while the professor of medical jurisprudence is officially associated with the work and granted an honorarium of £100 per annum. There are already many applicants for the police appointments.

Death of Miss Spencer, late Lady Superintendent of Nurses, Royal Infirmary, Edinburgh.

During the spring vacation not only has the Royal College of Physicians lost its President by death but the lady who so long occupied the responsible post of lady superintendent of nurses in the Royal Infirmary, Edinburgh, has also died. It is only about a year ago that she resigned her position in the Royal Infirmary and had retired to Dollar with the prospect of years of quiet and rest in front of her. She, however, was seized with acute illness and although at one time it was thought that she would recover symptoms recurred and in spite of all that was done for her she died. The Royal Infirmary, the medical staff of the infirmary, and other bodies were represented at the funeral.

Glasgow Maternity and Women's Hospital.

The new buildings of the Maternity and Women's Hospital, Glasgow, were opened last week by the Duchess of Montrose. Since 1834, when the hospital was started on a very modest scale, the claims upon the services of the institution have steadily increased. The increase of total cases indoor and outdoor from 994 in 1860 and 1288 in 1880 to 3740 in 1907 gives an indication of the need that existed for an increase of accommodation for the sake of patients and students alike. So far as can be seen there is now no fear of the hospital proving inadequate for years to come. The new building forms an imposing pile at the top of Montrose-street. The steep gradient on which the foundations are laid presented some difficulties to the architect but by skilful planning the peculiarities of the situation have been turned to advantage. The hospital provides accommodation for 108 patients (92 in the general maternity department and 16 in the isolation block). The importance of having a special department for the treatment of cases which might from their character be harmful to other patients in the ordinary maternity wards has long been recognised in the best equipped institutions of the kind. The building is arranged in such a way that the wards receive the maximum of sunlight and air. The accommodation in each ward ranges from one to eight beds. The wards are bright and cheerful and each one is provided with radiators, a number of them having also an ordinary fireplace. On the first floor are two large labour rooms, one containing four and the other two beds. These apartments have a splendid north-west light, the walls are tiled to the ceiling, and the floors are constructed of terrazo, so that the whole interior can be flushed with a hose-pipe. Adjoining the labour rooms, which are equipped on the lines of a modern operating theatre, are a sterilising room, a lavatory, a robing room for the staff, a waiting room for the students, and a duty room for the sister in charge. As one of the leading functions of the new hospital will be the training of students no pains have been spared to provide a complete and up-to-date school for the teaching of practical obstetrics and gynæcology. There is a large lecture theatre occupying two storeys and giving accommodation for 90 students. In addition, on the top flat there is a large operating theatre with accommodation for 60 students. The whole gallery here is formed of terrazo, the walls also are tiled in their whole extent, so that the interior can be kept scrupulously clean. Together with the site for the hospital the directors acquired a property which is to be used as a residence for students who will thus be within immediate call when their services are required. Formerly maternity students had to find accommodation anywhere in the neighbourhood of the hospital. This new arrangement, coupled with the splendid advantages for acquiring a thorough training in the institution, should prove very acceptable and be a valuable adjunct to the teaching of medicine in Glasgow. In the hospital also a special room has been provided for the bathing of babies, the floor being formed of terrazo and the walls being tiled. Sleeping accommodation is provided also for 44 nurses in the hospital. Special attention has been directed to the laundry arrangements, all the linen from the isolation block passing through a special washhouse where it is first steeped in a disinfectant and then boiled before being sent to the ordinary washhouses. The mortuary is detached from the hospital and there are also provided a well-equipped research laboratory and private investigation room. There is no doubt that this hospital is now the most perfect of its kind in the country and this is largely due to the fact that before the plans were completed two of the visiting members of the staff, accompanied by Dr. D. J. Mackintosh as consulting expert, were requested by the board of directors to visit the leading hospitals at home and on the continent, and as a result all the leading improvements at home and abroad have been embodied in the Glasgow hospital.

Honour to a Glasgow Surgeon.

His Majesty the King of Italy has been pleased to confer upon Dr. Thomas Reid of Glasgow the high order "Commendatore of the Crown of Italy." This distinction is designed as a recognition of Dr. Reid's high merit as an ophthalmic surgeon and also of his many and valued services to the clinique of ophthalmology in the University of Turin, where his intimate friend Professor Reymond is chief. Dr. Reid joined the staff of the Glasgow Eye Infirmary in 1868

and on the death of George Rainy was selected as Waltonian lecturer on diseases of the eye in the University of Glasgow in 1869. During 30 years he taught and demonstrated the principles and practice of ophthalmic surgery to rising generations, and almost all the ophthalmologists at present in Glasgow have studied with him at some time. The University of Glasgow conferred on him the honorary degree of LL.D. 12 years ago. He retired from public work, both in the University and in the Eye Infirmary, in 1900.

Spitting on Pavements.

The report to the Aberdeen town council by the medical officer and sanitary inspector recommending notices against spitting on the pavements has been adopted. It is suggested that these notices should be not more than 200 yards apart in the busy parts of the streets and should read, "Please do not spit on footpath." It is also suggested that notices should be supplied to the larger factories and workshops in the city and that those notices should bear reference to the main purpose of the discouragement of spitting in public or occupied places—namely, the prevention of the spread of consumption—and that they should read: "Corporation of Aberdeen. Public Health Department. Prevention of Consumption. You are earnestly requested to abstain from the dangerous and objectionable habit of spitting."

May 5th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish University Bill.

THE names of the members of the first Senate of the new University to have its seat in Dublin are given below; the nomination of those marked with an asterisk has effect only while those persons hold the offices of which the descriptions are attached to the respective names, and on the occasion of any such person ceasing to hold the office a vacancy will occur to be filled by further nomination: *Alexander Anderson, M.A., LL.D. (President of the Constituent College in Galway); the Hon. Mr. Justice Dunbar Plunket Barton; S. H. Butcher, M.P., LL.D.; Sir W. F. Butler, G.C.B.; W. F. T. Butler, M.A.; *D. J. Coffey, M.A., M.B., B.Ch. (President of the Constituent College in Dublin); A. W. Conway, M.A.; M. F. Cox, M.D.; Rev. W. Delany, S.J., LL.D.; A. Dempsey, M.D.; S. Gwynn, M.P.; Sir Stanley Harrington; Miss Mary T. Hayden, M.A.; His Grace the Most Rev. Dr. Healy, D.D.; Douglas Hyde, LL.D.; J. S. McArdle, M.Ch.; J. A. McClelland, M.A., D.Sc.; John MacNeill, B.A.; W. Magennis, M.A.; Thomas Maguire; the Right Rev. Monsignor Mannix, D.D., LL.D.; H. C. McWeeney, M.A.; Rev. A. Murphy; Sir C. Nixon, Bart., M.D., LL.D; J. F. O'Carroll, M.D.; P. A. O'Sullivan, M.D., B.Ch.; the Right Hon. Christopher Palles, LL.D., Lord Chief Baron; C. Yelverton Pearson, M.D., M.Ch.; J. P. Pye, M.D.; P. Semple, M.A.; A. Senier, Ph.D.; G. Sigerson, M.D.; L. A. Waldron, M.P.; His Grace the Most Rev. Dr. Walsh, D.D.; and *B. C. A. Windle, M.A., M.D., D.Sc., F.R.S. (President of the Constituent College in Cork).

Housing of the Dublin Poor.

The question of the housing of the Dublin poor has been again brought very emphatically under the notice of the assembled Dublin corporation by Dr. J. C. McWalter; and in a leading article the *Freeman's Journal* has spoken out vigorously and wisely regarding some of the curable disorders in the construction of the city.

It is the rightful boast of Germany that in the cities of the Empire, with only one possible exception, "slum streets" are paved and cleaned and sun-lit just as necessarily as the quarters of the well-to-do. And even the very poorest cannot do their daily shopping at the corner of their meaner street without breathing the pure air of some wide thoroughfare, gladdened by trees and flowers, and pleasant to sit in and lounge and gossip in a while. That sweetens the day, and you see it in the people's faces and habit, and they are cheerful and cleanly and self-respecting; there is content and hope in their friendly faces. Even those who do not live in slums have something to complain of here in Dublin. The slums poison their day, too, and cast up their evil in very visible form. And there is a hideousness of another kind forced upon us at every turn. The advertisement hoardings, with their gaudy persistence, often offending the minds by their unpleasant tales, and the eyes by their crude colours and misdrawn figures, and often by their distressingly weather-battered and ragged state—these, insistent in Dublin beyond the ordinary, take away the dignity of our city, make it look out at elbows and decayed. If we cease sometimes by use to notice their unloveliness, it is that the mischief has gone the more sadly deep. The foreign visitor is disgusted at this ugliness enthroned. In no country is this doubtful trade so unabashedly rampant as here; in the whole of Germany it is hard to find one such offence. The neat advertisement pillar does the business, and the hoarding flamboyance is ruled out by law.

As every human unit is largely influenced by environment, and more especially the younger ones on whom the future of humanity depends, I trust that these suggestions may bear their much-needed fruit.

Injunction Sought against Derry Lady Poor-law Guardian.

Some of the best work in the unions of the Irish metropolis of recent years has been effected by two of the lady Poor-law guardians, Mrs. MacDowel Cosgrave and Mrs. J. Wyse Power, and the value of their efforts has been generally recognised. A lady guardian in the city of Londonderry who has desired to show similar activity has not found public approval, for an action has been brought by the guardians of Derry union against Mrs. Margaret Morris, a lady member of the board, by which the "plaintiffs seek an injunction against defendant to restrain her from entering the workhouse infirmary or from visiting it except in accordance with the rules and regulations for visitors." The evidence led Mr. Justice Barton to state that his "inference from the evidence was that although this lady may have shown a certain want of discretion she did a good deal of good." The defence was that the lady "saw too much," and it would appear to have a solid foundation. One of the things which she saw and exposed to general view was: "The cot incident, three children being in it together, one of whom was seriously ill." Another source of trouble was: "She discovered a child was born in the institution and that the reputed father was an inmate." She also had complained of the quality of the beef-tea and other items. The repeated discoveries and reports of Mrs. Morris roused the conservative antagonism of her colleagues so thoroughly as to lead to the action which is now proceeding.

The Strain of Life in the Irish Constabulary.

What appears to be one of the incidental results of the troubled contemporary history of Irish land tenure has occurred near Dundalk, where a member of the Irish Constabulary who had been in charge of the police hut on an evicted farm was committed on Saturday (May 2nd) to a lunatic asylum. From the beginning of the week it had been noticed that his conduct was growing strange. Two of his comrades accordingly kept watch, and as he was seen putting a loaded revolver in his pocket and retiring to the rear of the hut they followed and he was deprived of the weapon after a desperate struggle. On the following day he attempted to commit suicide with a knife. A medical officer was consulted and the constable was certified to be insane, the strain of the duty which he was engaged in performing having preyed upon his mind in his solitary position to this degree.

The Importance of Union Rate-books.

An interesting communication was made to the Royal Society of Antiquaries at its quarterly meeting on April 28th by Mr. Thomas Laffan of Cashel, the subject of the paper being the importance of the union rate-books of the country, which contain exact records of the valuation, acreage, rent, &c., of every holder of land throughout Ireland. These books are much more copious in their information than the old hearth-money returns which are now so highly prized for purposes of family and historical research and record. In many cases where the parish records failed the rate-books have been found to afford valuable help to those interested in the recovery of property, while from a medical point of view it is a misfortune that many of them have been destroyed and that no copies have been preserved in the general valuation office. Medical statistics are playing an important part in preventive medicine and many medical men will concur with Mr. Laffan in his high estimate of the importance of the union rate-books and in his suggestion that for the future these records should be carefully preserved.

The Belfast Health Commission.

At a meeting of the corporation of Belfast held on May 1st it was decided to refer the report of the Belfast Health Commission to the joint public health, improvement, works, and market committee, with instructions to consider the conclusions arrived at and the recommendations made by the Commission and to report thereon to the council at an early date.

Analysing Creamery Milk.

A case in which great public interest was centred was heard at Magherafelt quarter sessions (county Derry) recently

before Judge Overend. It was an appeal in which three farmers were fined for refusing to allow samples of milk to be taken for analysis which they were supplying to Tamlaght Coöperative Creamery. The manager of Tamlaght Coöperative Agricultural and Dairy Society was also fined for obstructing the food and drugs inspector in the execution of his duty. It would appear that the farmers refused to give samples and the manager of the creamery directed them not to supply samples. The inspector's case was that the creamery was a coöperative society or limited company and that he was entitled to take the sample to ascertain if proper milk was being supplied. The manager of the creamery contended that the inspector's test would not be a correct one, as the standard of the milk might vary from day to day, whereas he contended the true test was made by taking a composite sample from each supplier's milk daily and by ascertaining the standard of cream at regular intervals. The county court judge upheld the magistrate's decision, being of opinion that it was highly important that milk should be tested and that the State had the right to have it done.

May 5th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Principal Causes of the Mortality from Diphtheria since the Introduction of Serum-therapy.

ON April 21st M. Martin communicated to the Academy of Medicine a study of 853 cases of diphtheria treated at the Pasteur Hospital by serum-therapy with 83 deaths, this being a mortality of 9·7 per cent., which practically coincides with the published mortality from the disease since the introduction of the treatment. This could be lowered if the injections were given earlier and if in selected cases prophylactic injections were employed. In reviewing the age-incidence of the fatal cases it is seen that they occur chiefly in infants under two years of age, which points to the fact that the treatment is not given early enough owing to the late establishment of the diagnosis. Other cases are accounted for by bacterial complications in secondary cases. The remedy is to be found in the individual isolation of patients. Toxic complications also help to swell the mortality, the disease being cured locally, but grave general symptoms and sequelæ supervening, due to an intense toxic condition which defies the means of defence by damaging the hepatic, renal, and suprarenal functions. To avoid this disaster the serum must be pushed vigorously, as in the treatment of diphtheritic paralyses. By such means the mortality amongst young infants may be lowered.

Sugar Refining as a Dangerous Occupation.

At the Academy of Medicine on April 21st M. Bernheim and M. Dieupart reported their experiences in an "anti-tuberculosis" dispensary situated near a sugar refinery, where they observed 150 cases of tuberculosis amongst 1500 hands employed in the works. Women proved more susceptible than men. They attributed this disproportionate frequency of the disease less to a chemical action of the sugar than to a pneumonokoniosis. The countless tiny sharp fragments of sugar dust in which the refiners are continually smothered reach the bronchi and the alveoli and cause lesions just as if they were particles of metallic dust. The hygienic conditions in these works are faulty and the hands are too badly paid to obtain proper nourishment. Further, the observers found very defective conditions of the teeth in these people, a great number of them being completely toothless; and lastly, the disease ran a very virulent course, advancing rapidly and nearly always to a fatal issue, as occurs when tuberculosis attacks diabetic subjects.

The Therapeutic Uses of Venous and Arterial Hyperæmia.

In M. Tuffier's clinique at the Beaujon Hospital these methods have been given a systematic trial, and M. Durey brought the results before the notice of the Medical Society of Paris on April 25th. By means of 200 cases treated in the course of two years he showed that venous hyperæmia induced by stasis gives excellent results in acute inflammatory conditions, provided Professor Bier's own technique is followed scrupulously; he further showed that arterial hyperæmia is rather of service in chronic or non-infective conditions, that the dangers of its employment are negligible, and that, speaking generally, hyperæmia should be employed less as a therapeutic measure *per se* than as a physiological adjuvant to natural curative processes.

Post-Graduate Medical Teaching.

The practical demonstrations for practitioners, which have been organised by a body of physicians and surgeons on the staffs of the hospitals and by various specialists, will be held in May and June at the Cercle de Luxembourg, 18, Rue de Luxembourg, and in the different hospitals and cliniques. A subscription of 20 francs covers the 21 demonstrations of the course.

Obituary: M. Chamberland.

The world of science in France has suffered severe losses recently and the latest is that of M. Charles Edouard Chamberland, which occurred on May 2nd. He was born in 1851 at Chilly-le-Vignoble, in the Jura. In his early youth he showed a marked aptitude for science and especially for mathematics. In 1887 he left his *école normale*, where he had distinguished himself in his studies and had become an *agrégé-préparateur*, and shortly afterwards he had the good fortune to meet Pasteur. He was an enthusiastic member of that great man's first band of pupils and in a little while proved himself one of his most valued assistants. M. Chamberland was a member of the Academy of Medicine, an Officer of the Legion of Honour, and assistant director of the Pasteur Institute. He made numerous contributions to the Transactions of the Academy of Science, which included a study of anthrax, a paper on its prevention by vaccination based on the researches of Louis Pasteur, and works on drinking-waters in their relation to health and epidemic disorders. M. Chamberland was returned as the Republican radical representative for the Jura at the general elections in 1885; he did not offer himself for re-election in 1889.

May 4th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Mortality from Tuberculosis.

AT a recent meeting of the Berlin Medical Society Professor B. Fraenkel read a paper on the Decrease of the Mortality from Tuberculosis and its Causes. He said that according to the statistical returns there were in Prussia 88,283 deaths from tuberculosis in 1886 and 64,459 in 1906, giving death-rates respectively of 31·14 and 17·26 per 10,000 of the population. The deaths from tuberculosis had therefore decreased by 23,824 and had influenced the aggregate deaths in Prussia, which decreased during that period by 69,064. The year 1886 was a critical year for the general mortality, which during the previous decade—i.e., from 1876 to 1886—had fluctuated between 263·30 and 247·76 per 10,000, whilst it descended to 209 per 10,000 in 1896 and to 180 per 10,000 in 1906. With regard to tuberculosis, the mortality from that disease during the period from 1875 to 1886 was between 31 and 32 per 10,000. From 1887 the mortality due to tuberculosis rapidly descended to 20·5 per 10,000 in 1898 and remained about this level for several years, when it again rapidly descended to 17·26 per 10,000 in 1906. This fact might be attributable either to a reduction in the number of persons attacked or to an increase in the number of recoveries. On an average tuberculous patients died four years after the commencement of the symptoms, so that the decrease of mortality in 1886 would mean that the number of tuberculous patients began to decline in 1882. This was the year when Professor Robert Koch discovered the bacillus of tuberculosis and drew attention to the fact that the disease was spread by the sputum of patients suffering from pulmonary tuberculosis. Moreover, between the years 1882 and 1886 compulsory insurance against sickness became law in Germany and from that time the working classes had at their disposal proper medical advice and financial assistance in the event of illness—a fact which certainly has contributed to the decrease of mortality. It has been alleged that the fall in the death-rate from tuberculosis was only apparent and was in reality due to the circumstance that since the discovery of the tubercle bacillus many suspected cases were now attributed to other diseases. This was, however, erroneous, because the mortality from other diseases of the respiratory organs had not increased in a degree to compensate the decrease of mortality from tuberculosis. It was interesting to find

that the decrease was greater in the towns and Professor Fraenkel was inclined to attribute this to the circumstance that in the towns a larger proportion of the population profited by the operation of the workmen's insurance laws than in the rural districts. The same cause was alleged for the greater decrease of mortality in the industrial western districts of Prussia than in the agricultural eastern districts. The decrease of mortality from tuberculosis was especially marked at the more advanced ages. Comparing the years 1886 and 1906 the reductions per 10,000 at successive age-periods were as follows: under 15 years, 4·70; from 15 to 30 years, 8·61; from 30 to 60 years, 24·77; and over 60 years, 45·46. For some other German States—namely, for Bavaria, Saxony, Würtemberg, and Baden—the statistical returns were given only for the period between 1892 and 1902, the decrease of the death-rate from tuberculosis in these countries being 3, 4, 1, and 4 per 10,000 respectively. Professor Fraenkel then compared the Prussian statistical returns with those of Great Britain and Ireland. He said that in England the death-rate from tuberculosis decreased between 1864 and 1904 from 33 to 18 per 10,000, and in Scotland from 36 to 21 per 10,000, so that in those countries the decrease during 40 years was the same as in Prussia during 20 years. Alluding to the mortality from tuberculosis in Ireland (which had increased from 24 to 27 per 10,000 within the period from 1864 to 1905), he said that this increase was caused by the unsatisfactory standard of living which prevailed among the population. It proved, however, that the bacillus of tuberculosis had not become less infectious or the resistance of the human species greater, as had been asserted by some writers desirous of making out that the diminished mortality from tuberculosis was due to natural causes. If their arguments were sound the mortality of tuberculosis would have become smaller in Ireland also; its increase implied that the mortality from tuberculosis was influenced not by natural causes but by purposely directed measures such as amelioration of the social condition of the population, general hygienic improvements, and the systematic observance of the special precautions which have been recommended for the prevention of tuberculosis. Tuberculous patients being the vehicles of infection all those measures were especially efficacious which tended to the recovery or at least the isolation of the individual patient. This was the principal function of the sanatoriums, and it was remarkable that the mortality from tuberculosis, which remained nearly the same from the year 1899 to 1905, decreased by 2 per 10,000 in 1906, coincidently with the development of the sanatorium movement. About 40,000 persons were admitted every year into the sanatoriums and of these about 20,000 had obvious tubercle bacilli in their sputum. In about 6000 of them the tubercle bacilli disappeared from the sputum under the sanatorium treatment and in this way these patients became incapable of spreading the disease. Professor Fraenkel was therefore a firm believer in the value of sanatoriums for the prophylaxis of tuberculosis. In the discussion Dr. Mosse mentioned that Dr. Croissant of Heidelberg had compared the results obtained within and outside the sanatoriums respectively. He found that of the patients in the first stage of the disease 79·6 per cent. became able to work when treated and 82·5 per cent. when not treated in a sanatorium. Dr. Mosse also drew attention to the fact that the mortality from tuberculosis in England had decreased although the number of sanatoriums was rather small compared with Germany. Measures to improve the standard of living among the population were more efficacious than sanatoriums. Dr. Albert Fraenkel said that the sanatoriums, as a rule, received only patients in the first stage, or suspected cases, who might recover without sanatorium treatment. It was, however, very necessary to establish sanatoriums for patients in an advanced stage who were especially dangerous as disseminators of the bacilli. Dr. Hamburger quoted from the statistical returns of Paris, where the mortality from tuberculosis decreased from 45·1 to 35·8 per 10,000 during the period from 1865 to 1905. It was remarkable that a slight increase was observed in the period from 1881 to 1890—namely, at the very time when the tubercle bacillus was discovered. Several other members took part in the discussion; the general opinion, with a few exceptions, was that sanatoriums in their present state, although, of course, valuable for individual patients, were not so important for the general prevention of tuberculosis as Professor Fraenkel supposed.

May 5th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Regulating the Sale of Patent Medicines.

Senator Templeman of British Columbia has a Bill before the Canadian Parliament dealing with patent medicines which will inform the public of the character of the drugs used in these preparations in Canada. It only has to do with those drugs or preparations which are not found in the British Pharmacopœia, the Codex Medicamentarius of France, the Pharmacopœia of the United States, or any other pharmacopœia approved of by the Minister in charge of this branch of the public service. The pivotal clause of the Bill is that which treats of the contents of medicines. This clause sets forth the names of the drugs which shall not enter into the composition of preparations to be manufactured, imported, or exposed for sale. The purport of the Bill is to rule out cocaine and alcohol in drug preparations; and if these drugs are used it must be so stated on the labels. The Bill further provides for governmental inspection in carrying out the law.

Meeting of Ex-House Surgeons of Toronto General Hospital.

The third annual dinner and meeting of the Association of Ex-House Surgeons of the Toronto General Hospital took place in Toronto on April 15th, being presided over by Dr. Alexander Taylor of Goderich. There were 40 ex-house surgeons present, including Dr. T. B. Futcher, associate professor of medicine in Johns Hopkins University, Baltimore, U.S.A. Dr. Charles O'Reilly, former superintendent of the hospital, and Mr. P. C. Larkin, vice-chairman of the board of trustees, replied to the toast "Our Guests." In the course of his remarks Mr. Larkin announced that he would give a valuable prize to the ex-house officer who made the best contribution to medical literature between now and the time of the next annual meeting. The annual election of officers of the association resulted as follows: President, Dr. Taylor, Goderich, Ontario; vice-president, Dr. Fred. Fenton, Toronto; secretary, Dr. J. N. E. Brown, superintendent of the Toronto General Hospital; treasurer, Dr. W. B. Hendry, Toronto; general council, Dr. W. J. Charlton, Weston, Ontario; Dr. H. A. Bruce; and Dr. E. Stanley Ryerson, Toronto.

A New University for Western Canada.

The new University of Alberta is to open in September with a class of 40 students. The first meeting of the senate was held recently. Three medical men are members thereof—namely, Dr. W. D. Ferris, Dr. W. S. Galbraith, and Dr. O. Boyd. The President is Professor H. M. Tory, LL.D., brought by the Government of the province of Alberta from McGill University, Montreal. To him has been assigned the preliminary work of organisation. The site of the new University is at Edmonton and the extent of the ground is 258 acres. The current expenses are to be defrayed by a grant of 20 per cent. of the corporation tax and 20 per cent. of the unoccupied land tax. The Government will provide the buildings. Professor Tory has stated that courses will be instituted leading to the degrees of B.A. and B.Sc. The college yearly session will be divided into two terms beginning at the end of September and the beginning of February. Each term will be complete in itself and will be followed by an examination.

Anti-tuberculosis Society in Newfoundland.

A large public meeting has been recently held at St. John's, Newfoundland, and a society established to prevent the spread of tuberculosis in that colony. His Excellency the Governor of the island, himself a medical man, presided at the meeting. The Hon. John Harvey was appointed to the position of president of the new society and Dr. Rendell and Mayor Gibbs, vice-presidents, with a number of prominent citizens, medical and lay, as an executive committee. As tuberculosis has been increasing to an alarming extent in the colony the formation of the association is opportune.

Canadian Hospital Association.

The Canadian Hospital Association met in Toronto in annual convention on April 20th and 21st, under the presidency of Miss L. C. Brent, superintendent of the Sick Children's Hospital, Toronto. In her annual address she recommended that the membership of the association should be extended to include trustees of hospitals and other laymen interested in hospital work. Dr. A. D. McIntyre, superintendent of the Kingston General Hospital, in a paper quoted

a number of experiments which had been made at his hospital which went to discredit the value of fumigation as a means of preventing the spread of disease. Dr. W. J. Dobbie, superintendent of the free hospital for advanced cases of tuberculosis at Weston, read a paper on Tuberculosis as a Social Problem. He urged the importance of the adoption of educational methods to stir up public opinion and suggested that centres of activity should be established in every city, town, and county. Dr. Gordon, of the Gravenhurst Sanatorium, advocated commencing the education campaign in the public schools. Dr. Helen MacMurchy, Toronto, read a practical paper on the Milk-supply. Dr. Charles Sheard, Toronto, city medical health officer, would keep out visitors to the patients in the hospitals. The following officers were elected: President, Dr. W. J. Dobbie; first vice-president, Dr. A. D. McIntyre, Kingston; and secretary, Dr. J. N. E. Brown, superintendent of the Toronto General Hospital.

Vancouver General Hospital in 1907.

There were 2301 patients admitted for treatment into the wards of the Vancouver, B.C., General Hospital during the year 1907. This was an increase of 988 over 1906. The average duration of stay in the hospital was, however, lower —19·90 days as compared with the previous year of 21·10. There were 135 deaths during the year and of these 47 had been in the hospital less than 48 hours. 11 of the deaths were due to tuberculosis of the lungs. Three "Christian Scientists" were among the cases admitted. During the year the new isolation buildings were put into use, and at times considerable difficulty was experienced in securing accommodation for the cases of infectious diseases admitted. The training school for nurses in connexion with the Vancouver Hospital has been increased from 31 pupil nurses to 53. There were 146 applications for entrance to the school during the year.

Hospital Extension in Winnipeg.

The work of the Winnipeg General Hospital has increased to such an extent during the past few years that new buildings are urgently needed. It has been decided to submit a by-law to the ratepayers of that city to raise $225,000 for hospital extension purposes. Of this amount $100,000 will be for an isolation hospital with 80 beds; morgue, $15,000; hospital for tuberculous patients, $40,000; and maternity and children's hospital, $60,000. The expenditure in maintaining this hospital in 1907 was $169,000. There were received from private patients $23,000 and from semi-private patients $34,000. The average full cost of a private patient per day was $3·00 and for a semi-private patient $1·50. The hospital receives an annual grant from the city of Winnipeg of $40,000 and from the Manitoba Government about $26,000.

Toronto, April 23rd.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Prize Essay on Bright's Disease.

IN 1901 the New York Academy of Medicine offered a prize for the best original research work on the kidneys. The prize fund was established by a lady and was to be awarded triennially. This is the first time since 1901 that a thesis has been submitted which, in the judgment of the committee, reached the high standard of merit required. The winner of the prize will receive the original amount, plus the interest which has been accumulating since the fund was started, making in all about $20,000. The work involved in this research has been immense in detail. The hospitals employed in the research were Roosevelt, St. Luke, and the Sloane Maternity, while at the same time expert chemists carried on their investigations in the Pathological Laboratory and at the Laboratory of Biological Chemistry of the College of Physicians and Surgeons. The thesis is not published, but the winner of the prize, Dr. Norman Ditman, states that the investigation was along these lines—viz., the identification of the various poisons in the system causing Bright's disease; the probable physical conditions leading to the formation of these poisons; the deduction of a general cause from all of these; and the hypothesis for the probable prevention of the disease.

Visit of Dr. Robert Koch.

The visit of Dr. Robert Koch of Germany to this country has excited a widespread interest in medical and scientific circles. His first public appearance was at a dinner given by the German Medical Society, under the presidency of Dr. Carl Beck. An interesting incident of the dinner was a telegram from the German Ambassador at Washington, expressing the Emperor's great appreciation of Mr. Carnegie's generous gift of $100,000 to the "Robert Koch *Stiftung*," which he was sure would further the international fight against tuberculosis. Dr. Koch expressed his appreciation of the cordial reception given to him in simple but forceful language, asserting that he had endeavoured, like many others, to do his work in the world as opportunity offered. He esteemed himself fortunate in having found gold in the dust of the road which is open to everyone. He closed with a promise that he would return, which was received with great enthusiasm.

Conference on Medical Education.

The fourth annual conference on medical education was recently held in Chicago. In his address the President, Dr. Bevan, announced the merging of several medical schools as an important event, showing a tendency to close weak schools and in their places to create one strong and well-endowed college. It appeared in a report that 50 leading medical colleges will in 1910 be requiring one or more years' study in a college of liberal arts, including courses in physics, chemistry, and biology. President Eliot, of Harvard University, spoke at length regarding high standards of preliminary education and called attention to the fact that the colleges holding high standards are more likely to secure endowments. The conference was addressed by Dr. A. H. F. Barbour, of the University of Edinburgh, who explained the medical standards in Scotland. The outlook for great advances towards a higher grade of qualification on admission to the medical colleges, longer terms of study, and more efficiency in teaching was never so promising.

Interstate Health Investigations.

The importance of coöperation of the Federal Government with State and local health authorities in the control of widespread epidemics has been repeatedly demonstrated during the last few years. But the "State rights" doctrine has been so tenaciously adhered to that the "public health service," which represents the General Government, has been able to bring to the aid of local health authorities a very limited amount of its resources. A Bill is now before Congress which greatly enlarges the scope of the powers of the "public health service" in the aid of the State and local sanitary boards. The Bill provides that the Federal service may make special investigations in all parts of the country into the prevalence of diseases, the conditions affecting their origin and spread, and the means of prevention; while the surgeon-general may detail officers to aid localities and may establish hygienic laboratories and take other necessary means to control epidemics. If this measure becomes a law it will create a national system of sanitary police of great efficiency.

April 27th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Proprietary Medicines.

Messrs. E. Glover and J. A. Kenningham have arrived in Melbourne as delegates from a number of proprietary firms having an interest in the manufacture of patent medicines, to protest against the legislation introduced, and contemplated, by the Federal Government. On March 10th they were introduced to the Minister of Customs. Mr. Glover stated that he represented about 300 proprietors of patent articles, including soaps, medicines, &c. These business people had held a trade connexion in Australia for many years and wished to continue it, but if the Government demanded that formulæ should be disclosed they would have to give up the Australian market altogether. Mr. Kenningham said that they were informed that if a formula was disclosed it was open to anyone to make the goods and to call them by the correct names. The Minister, in reply, said that they could depend that the Government would try to treat them with reason and justice. Any legislation that was passed would, he hoped, be of a reasonable character. Black sheep had been referred to as being in the trade in proprietary articles. The more that trade was probed

into the more black sheep were discovered. The Government had got past the stage of relying on sworn statements to prevent people being deluded or practically poisoned and intended to leave such matters to an analyst who would be appointed for the Commonwealth. The Bill alluded to only intended to stop injurious importations and impostures. He was glad to hear the delegates say that the statement about the withdrawal of advertisements was not a threat. He would carefully consider what the delegates had placed before him. Certain powers were proposed to be given that would permit the Governor-General in Council to prescribe in certain cases that formulæ need not be disclosed. Since then the delegates have made further representations of a similar nature and have attached the following letter to their memorandum; the signatures are those of all the leading wholesale druggists and other influential mercantile firms:—

We, the undersigned, wholesale distributors of patent and proprietary medicines and foods, beg to state that we have heard the views expressed by the delegates from the Proprietary Articles Section of the London Chamber of Commerce, and agree with them that it would be impracticable to demand that proprietors should reveal their formulæ, as such disclosure would result in the total loss of their trade rights. We believe that the alternative proposal they put forward will effectually safeguard the public, and, at the same time, eliminate from the market undesirable articles, viz., that a list of deleterious and objectionable drugs and poisons be scheduled, and that all proprietors be called upon to make a declaration whether their goods do or do not contain any of these ingredients.

Signed—

FELTON, GRIMWADE, AND CO.
ROCKE, TOMPSITT, AND CO.
DUERDIN AND SAINSBURY.
PETERSON AND CO.
JAMES SERVICE AND CO.
HENRY BERRY.
JOHN CONNELL AND CO., PTY. LTD
ROLFE AND CO.
VIRGOE, SON, AND CHAPMAN.

Loss on Condemned Carcasses.

Mr. Brown, the Victorian supervisor of export food-supplies, has been giving close consideration to the question of compensating butchers for losses by the condemnation of purchased beasts. He has come to the conclusion that the butcher is the last man on whom the loss should fall, as he buys the animals in yards where they are passed by inspectors as sound. No man living can tell how a live beast showing no sign of disease will turn out when slaughtered. Dr. Brown suggests that the agents should increase their selling charge ¼ per cent. and that a fund should be established to cover the losses if condemned. As an alternative Dr. Brown would favour any workable scheme by which the loss would fall on the particular owner whose beasts are condemned, though the apparent objection to the first proposal is minimised by the fact that nearly every grazier becomes possessed of diseased stock sooner or later, so that he would not as a rule contribute to a fund merely for the benefit of others. Dr. Brown is convinced that some remedy is called for.

"Nature Study" and Enteric Fever.

The Education Department of Victoria has recently made a great feature of "nature study" for State school children. At Beechworth, a country centre, enteric fever has been very prevalent of late, and the local health officer, Dr. D. Skinner, in a report on ten cases coming under his notice, remarked: "In several of the cases I have found that the sufferers had been hunting for tadpoles in the dirty pools of Spring Neck and Holme's Neck, which are nothing but collections of sewage of the filthiest type. This is part of the 'nature study' which is at present one of the fads of the Education Department. But I should say that a little study of the local sanitary conditions would be of much greater advantage to both the rising generation and their teachers." The council directed that copies of the report should be forwarded to the Board of Public Health and to the head master of the school.

Personal Items.

Dr. Henry Maudsley of Melbourne is leaving by the *Asturias* for a short visit to England. Dr. Maudsley was entertained at dinner by a number of fellow members of the profession who wished him a pleasant trip.—Sir Thomas Fitzgerald has recently suffered from a severe attack of pneumonia and at one period of his illness his condition gave rise to grave concern. He has now convalesced satisfactorily and has been able to go to Sydney for a change.—The David Syme Research Scholarship in the University of Melbourne has this year been awarded to Dr. Basil Kilvington for his work in the healing and degeneration of nerves. The award carries a monetary value of £100.

April 6th.

Obituary.

CHARLES EDWARD UNDERHILL, B.A., M.B. CANTAB., F.R.C.S. EDIN., M.R.C.S. ENG., F.R.S. EDIN.,

PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

FOR the first time in its history the Royal College of Physicians of Edinburgh has had to mourn the death of the occupant of its presidential chair. The occurrence has been felt deeply owing to the very special position which the President occupied. Few men in Edinburgh have called out such steady esteem and admiration, deepening into affection, as did Dr. C. E. Underhill. The knowledge that when last year he accepted the presidential chair he was suffering from aortic disease added a note of heroism to his occupancy of it and elicited the generous admiration which quiet and steadfast pluck tends to do. Those who knew him intimately had the greatest admiration for the kindly courtesy of his manner, the straightforwardness of his life, the purity of his motives, the soundness of his judgment, and the culture of his mind. He was a loyal friend and of enemies he can hardly be said to have had any. Such a man is a very valuable possession in a medical community and it is well that his brethren and his College should so truly mourn his loss. It was first and foremost as a man that Dr. Underhill made his impress upon the profession. He did not write much, but what he did write would have vindicated a claim to write more had he been so minded. He life was devoted to his patients inside the hospitals and to a large and influential *clientèle* in Edinburgh and its neighbourhood. He died on April 24th and was buried on the 28th in the Dean Cemetery. The service was held in the church of St. John the Evangelist, Bishop Dowden taking part in it. The Fellows of both Colleges attended the funeral in their official robes.

Charles Edward Underhill was born in 1845 and was the second son of Mr. Lees Underhill, F.R.C.S., of Tipton, Staffordshire. He was a graduate of Cambridge, having taken his B.A. degree in 1867 and his M.B. degree in 1870. He completed his medical studies in Edinburgh and became assistant to Dr. Matthews Duncan. When Dr. Duncan went to London Dr. Underhill succeeded to much of his practice. He became a Fellow of the Royal College of Surgeons of Edinburgh in 1872 and of the Royal College of Physicians four years later. He was one of the physicians to the Maternity Hospital for many years and served as a physician to the Royal Hospital for Sick Children. He held the double office of medical officer of health and police surgeon to the city of Edinburgh. He was for many years treasurer of the Edinburgh branch of the British Medical Association. He became president of the branch more recently. He was a past president of the Edinburgh Royal Medical Society, of the Edinburgh Obstetrical Society, of the Edinburgh Medico-Chirurgical Society, and of the Edinburgh Harveian Society, and he was thus a prominent member of the most distinguished medical circle in Edinburgh. In every position which he held he gained but one opinion as to the admirable manner in which he discharged the duties.

Dr. Underhill had no family and is survived by Mrs. Underhill, with whom much sympathy is felt. The funeral was attended by four brothers and one cousin, all members of the medical profession.

HENRY JOHN PRANGLEY, M.R.C.S. ENG., L.R.C.P. LOND., L.S.A.

WE sincerely regret to announce the death, after a few days' illness, from angina pectoris of Mr. Henry John Prangley, well known and highly esteemed as a practitioner in Anerley and the neighbourhood, at the comparatively early age of 50 years. He was the son of Mr. John Pearce Prangley, solicitor, of Heytesbury, in Wiltshire, and was born in that town on Sept. 14th, 1857. His school days were spent at St. Nicholas College, Hurstpierpoint, where he took many prizes, showing a particular aptitude for mathematics. On leaving school he was apprenticed to Dr. Willis, who was medical officer of health of Monmouth, and subsequently proceeded to St. Thomas's Hospital which he joined in 1875. Whilst at the hospital he both worked and played with the energy which characterised him and as a student, as indeed throughout his life, he was

well liked by his fellows. He obtained the L.S.A. in 1882 and the M.R.C.S. Eng. and L.R.C.P. Lond. in 1883. After leaving St. Thomas's he was appointed house physician at the City of London Hospital for Diseases of the Chest. Soon after qualifying, when 25 years of age, he obtained the post of medical officer to the North Surrey District Schools at Anerley in competition with 70 other applicants and then settled at Anerley. In the course of a few years he had succeeded in acquiring a large practice which grew from year to year and became one of the most extensive in South London. In the year 1901 he was appointed medical officer of health to the Penge urban district council and when the London County Council built its residential school at Anerley for the deaf and dumb he was appointed medical officer to that school. He was keenly interested in his profession and was for many years honorary secretary first of the East Surrey, and latterly of the Norwood, division of the British Medical Association. In addition he was a member of the Sydenham District Medical Society and of the Beckenham and Penge Medical Society, and in him the various charities in connexion with the profession found a generous supporter. He was at all times a keen sportsman and a lover of outdoor sports. When at St. Thomas's Hospital he played half-back in the Rugby XV. and was a member of the team which won the Inter-Hospital Cup in 1878, the first occasion on which the cup was won by St. Thomas's. He subsequently took up lawn-tennis, played for the Crystal Palace Club for many years, and won many prizes. Finding that his health and the claims of practice would not permit him to keep up tennis he turned to golf and was a member of the Beckenham Golf Club where he won two challenge cups. He was very good at all sports and his success was all the more remarkable because he had so little time to devote to them and could never practise regularly. It was his interest in sport that led to his accepting the post of honorary medical officer to the Crystal Palace Football Club and practically the last work that he did was when he attended a prominent member of the eleven who was injured in a match on Saturday, April 18th. He conveyed the patient to his home in Croydon in his motor-car and in doing so caught a severe chill. He was taken ill on that Saturday night and died on the morning of Friday, April 24th. As a result of a post-mortem examination the coronary arteries were found to be atheromatous.

Henry Prangley was a keen and enthusiastic Freemason of many years' standing. He was a Past Master of the Anerley Lodge, No. 1397, and M.E.Z. of the Anerley Chapter. He was a founder of the Cheselden Lodge, No. 2870 (St. Thomas's Hospital), of which he was at the time of his death Worshipful Master. He was also a founder and P.Z. of the Cheselden Chapter. Devoted both to his old hospital and to Freemasonry, it afforded him great gratification to be called upon to fill the principal offices in the Cheselden Lodge and the Cheselden Chapter, and although in the case of the Lodge it was not given to him to complete his work the brethren will feel a melancholy satisfaction in that for a time they were privileged to serve under his rule. His sudden death will be most sincerely lamented by the brethren of the Masonic bodies with which he was associated. Indeed, not only amongst Freemasons but, speaking generally, his death will be a blow peculiarly and severely felt by his friends, by his patients, and by all who knew him. As a general practitioner he reflected credit upon the great body of the profession. As a man he was able, upright, genial, and considerate, and popular in the best sense of the term—a good man and true. The funeral service took place on April 29th at St. Paul's Church, Upper Norwood (the body having been previously cremated at Golder's Green according to the wishes of the deceased), and the ashes were subsequently interred at the Crystal Palace District Cemetery, Elmers End. There was a very large number of mourners present and the whole of the route was lined by people. Besides the wreaths on the coffin it took three carriages to convey the other flowers, which included wreaths sent by the Anerley Lodge and the Anerley Chapter and the Cheselden Lodge and the Cheselden Chapter. In addition to the principal mourners the Anerley Lodge was represented by Mr. P. W. Greetham, W.M., Dr. R. Wilkinson, I.P.M., and other members of the Lodge, whilst the Cheselden Lodge was represented by Mr. L. A. Bidwell, I.P.M., Dr. Crawford Thomson, Dr. W. S. Colman, Dr. C. R. Box (all Past Masters of the Lodge), Rev. Herbert Sheppard (chaplain), and several other members of the Lodge. The funeral was also attended by members and officials of the Penge urban district council, of the North Surrey District Schools, and representatives of the Deaf and Dumb School, and the postmen who were accompanied by their band. The service at the church and at the grave was conducted by Canon Ransford. Mr. Prangley leaves a widow to whom we tender our sincere sympathy.

WILLIAM BOWEN DAVIES, L.R.C.P. LOND., M.R.C.S. ENG., L.S.A.

BY the death of Mr. William Bowen Davies at the age of 61 years the town of Llandrindod Wells has lost a friend and benefactor of a very unusual order, a man who devoted his life to the advancement of its welfare and served it in many offices of great utility. Mr. Davies was the eldest son of the late Mr. Thomas Davies of Llandingat, Carmarthenshire; he was educated at Llandovery College and later at St. Bartholomew's Hospital, whence he qualified at the London Colleges and the Apothecaries' Hall in the years 1869–70. He then held a resident post for a year in the Jersey General Infirmary and in 1872 proceeded to start in practice at Llandrindod Wells, then little more than a village, where the death of his only professional competitor speedily placed him in the enjoyment of an extensive practice, which he held until his retirement, in the surrounding district. Public medical appointments were soon added to his private work, for he became public vaccinator and medical officer of health of the Rhayader union, and in 1881 the first medical officer and secretary of the Llandrindod Wells Cottage Hospital and Convalescent Home, an institution which he was a prime agent in establishing. In 1903 he retired to the consulting staff of the hospital. Soon after his settlement in the town he became acquainted with its mineral waters and consequently impressed with its potentialities as a Spa for the treatment of disease; accordingly he set himself to the study of balneology and hydrotherapy to such purpose that he was able to impress the advantages of Llandrindod Wells in this connexion upon his own profession to the very great benefit of the place. His enthusiasm for the subject was reflected in many writings and subsequently gained him the presidency of the British Balneological and Climatological Society. He also took an interest in the promotion of the Spa by journalism and was a chief promoter of the first local newspaper. In 1884 he held the presidency of the Shropshire and Mid-Wales branch of the British Medical Association and delivered his address from the chair on Llandrindod Wells as a Health Resort. He gave very valuable advice to his town upon the subjects of sewerage, water-supply, road improvement, and lighting, and lived to see the electric installation which he had long advocated. Under his management a sample of saline water was sent from the Spa to an exhibition at Frankfort where it was awarded a bronze medal, a distinction which gave Mr. Davies the greatest pleasure. The result of all this work was that Llandrindod Wells became a justly popular health resort, a consummation which it owes largely to the subject of this memoir. His other public activities were concerned chiefly with three interests, the welfare of the Anglican church in his town, of which he was churchwarden for many years of wholehearted service, the struggle to obtain proper local government for its local affairs, and the education problem for his district. He was one of the first aldermen to be appointed to the Radnorshire county council on its formation in 1889, a body which since 1891 has met at Llandrindod Wells. This opportune change of venue gave the town sufficient distinction to be granted a local board of its own, of which Mr. Davies was unanimously elected chairman, holding office until in 1894 this body was succeeded by an urban district council, the chair of which he was again chosen to fill, for his advice on sanitary matters was found to be of the utmost value to the town. He devoted untiring attention to this office, although at the same time he was carrying on a large professional practice, was a commissioner for taxes, and had also been placed on the commission of the peace. He was equally untiring in his efforts to spread the knowledge of the Spa's merits and among the contributions to literature which he made with this object were "A Report on the Medicinal Properties of the Mineral Waters at Llandrindod Wells," "A History of Llandrindod Wells," and "The Spa Treatment of Arthritis Deformans." He took a keen and practical interest in meteorology and compiled systematic records of local weather conditions and rainfall. He was a promoter of the eisteddfods held at Llandrindod Wells, and in fact joined enthusiastically in every enterprise

for the advancement of the town. For many years he was a manager of the national school and took an ardent part in obtaining a county school for his neighbourhood. Unhappily, his health failed during last year and in July he retired to Exmouth in Devonshire where his death took place; there can be no doubt it was accelerated by his extraordinary activity. He was held in the tenderest regard by an exceptionally wide circle of friends, and his funeral, on April 29th, was made a public ceremony, officially attended by his urban district council. Mr. Davies married in 1879 Miss Jessie Rankin, daughter of the late Mr. William Rankin of Handsworth, Staffordshire, who, with two sons and four daughters, survives him.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Béchamp, formerly professor of chemistry in the Medical Faculty of the University of Montpellier and corresponding member of the Paris Academy of Medicine.—Dr. Féron-Vrau, formerly professor in the Medical Faculty of the University of Lille.—Dr. Riéshêtillo, formerly *privat-docent* of dermatology in the University of Moscow.—Dr. Nabias, professor of materia medica in the University of Bordeaux.—Dr. Gestin, formerly Director-General of the French Naval Medical Service.—Dr. Franz von Leydig who had been professor of comparative anatomy and zoology and director of the Zoological Museum in Bonn for some 12 years until his retirement more than 20 years ago. He was born at Rothenburg, to which town he returned after his retirement and where he remained until his death. Before his appointment to Bonn he was for several years professor in Tübingen. He published a work entitled "Histology, Human and Comparative," in 1857, and later a "Manual of Comparative Anatomy," which, however, never seems to have been completed. His age was 86 years.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following degree was conferred on May 1st:—

B.C.—C. B. Ticehurst, St. John's College.

The special board for medicine has issued new schedules in chemistry and physics which will come into operation at the examination at Christmas, 1908.

FOREIGN UNIVERSITY INTELLIGENCE.—*Breslau:* Dr. Jean Schaffer, *privat-docent* of Dermatology, has been granted the title of Professor.—*Copenhagen:* Dr. C. U. Maaløe has been recognised as *privat-docent* of Pathological Anatomy. Dr. V. Schaldemose has been promoted to an Extraordinary Professorship of Surgery.—*Kieff:* Dr. Laudenbach has been appointed to the chair of Physiology.—*Naples:* Dr. Eugenio Scarpitti has been recognised as *privat-docent* of Medical Pathology.—*St. Petersburg (Military Medical Academy):* Dr. W. Oppel has been promoted to an Extraordinary Professorship of Surgical Pathology and Therapeutics.—*Utrecht:* Dr. H. P. Wijsmann of Leyden has been appointed Extraordinary Professor of Pharmacology and Alimentary Hygiene.—*Vienna:* Dr. Franz Hamburger has been appointed to succeed Professor Frühwald in the charge of the Children's Department of the Policlinic.

LITERARY INTELLIGENCE.—Messrs. Henry Frowde and Hodder and Stoughton will publish during May the second edition of "Operations of General Practice" by Mr. Edred M. Corner and Dr. H. I. Pinches; also the following new books: "A System of Syphilis," Vol. I., edited by Mr. D'Arcy Power and Mr. J. Keogh Murphy; "The Writings of the late Sir William Broadbent, F.R.S.," collected and edited by Dr. Walter Broadbent; "Glandular Enlargements and Other Diseases of the Lymphatic System," by Mr. Arthur Edmunds of the Great Northern Central Hospital; "The Law in General Medical Practice, or Clinical Jurisprudence," by Dr. Stanley B. Atkinson, secretary of the Medico-Legal Society; "Diseases of the Eye," by Mr. M. Stephen Mayou of the Central London Ophthalmic Hospital; and "Gunshot Wounds," by Major C. G. Spencer, R.A.M.C. The above publishers also have in active preparation "Heart Diseases," by Dr. James Mackenzie, author of "The Study of the Pulse," and "The Rectum, its Diseases and Developmental Defects," by Sir Charles Ball.—Messrs. Smith, Elder and Co. have almost ready for publication a work on "Animal Life" by Dr. F. W. Gamble, lecturer in zoology, Owens College, Manchester. The volume comprises a series of studies in the life-history of typical members of the animal kingdom, describing their vital activities in relation to their structure, and the general scheme of development, based upon a series of lectures delivered to the students of the Owens College, Manchester. It will include a coloured frontispiece and numerous line and half-tone illustrations.

UNIVERSITY OF OXFORD.—The following dates of examinations have been announced:—Examination for the Degree of Bachelor of Medicine: Thursday, June 18th, to Friday, June 26th; names to be sent in by 10.30 A.M. on Tuesday, June 2nd. Examination for the Degree of Master in Surgery: Thursday, June 25th *et seq.*; names to be sent in by 10.30 A.M. on Friday, June 5th. Examination in Preventive Medicine: Tuesday, Nov. 17th (Part I.), Wednesday, Nov. 18th, to Friday, Nov. 20th (Part II.); names to be sent in by 10.30 A.M. on Tuesday, Oct. 27th. Natural Science Scholarships: Scholarships in natural science are announced at Balliol and Brasenose Colleges; the examination will commence on Tuesday, June 30th.

ROYAL COLLEGE OF SURGEONS IN IRELAND: GENERAL MEETING AND ELECTION OF OFFICERS.—A meeting of the College will be held on Saturday, May 30th, at 1 o'clock, to receive the annual report of the Council. Notices of motion received by the registrar on or before Tuesday, May 19th, will have priority of consideration over any others which may be submitted. A meeting of the College will also be held on Monday, June 1st, at 1 o'clock, pursuant to the provisions of the Charters, to elect a President, Vice-President, council, and secretary of the College for the ensuing year. Fellows who may desire to have their names printed on the list of candidates for office will please signify their wish by letter to the registrar at the College on or before Tuesday, May 19th, as it is necessary to include the names in the voting-papers which are forwarded to the Fellows, and no candidate is eligible unless his application is received within the date specified.

UNIVERSITY OF LONDON.—A course of eight lectures on the Structure and Functions of the Central Nervous System will be given in the physiological department of University College by Dr. W. Page May, Fellow and lecturer of the College, on Wednesdays, at 5 P.M., beginning on May 13th. The syllabus is as follows: (1) Recent Advances in Our Knowledge of Nerve Cells and Fibrils; (2) the Peripheral Nerves and Ganglia in their Relation to the Central Nervous System; (3) the Centres and Paths of the Spinal Cord; (4) Certain Points in the Brain Stem; (5) Recent Researches on the Cerebellum; (6) the Cerebral Cortex and Optic Thalamus; (7) the Afferent Paths of the Central Nervous System; and (8) the Efferent Paths of the Central Nervous System. These lectures are open to all students of the University of London, also to qualified medical men on presentation of their cards, and to such other persons as are specially admitted.

HYDROLOGY AND CLIMATOLOGY.—The Ninth Italian Congress of Hydrology and Climatology was held at San Remo from April 12th to 15th, under the presidency of Dr. U. Martemucci, at which Dr. Frederic Bagshawe of Hastings, chairman of council of the British Balneological and Climatological Society, was present as delegate of the society. Professor Maragliano of Genoa delivered an address on Sanatoriums for the Tuberculous in Relation to Public Health and gave the reasons why such institutions were not used along the Riviera. Very numerous papers followed, both in the morning and the afternoon. On April 14th the morning sitting was opened by a paper by Professor Vinai on the Treatment of Arterial Hypertension. Other papers and discussions followed. On the afternoon of the opening day a garden party and excursion took place at the golf links at Taggia, some three miles distant, which was largely attended. On the 14th the banquet of the association was held; it was attended by 125 members and many eloquent speeches were made. On the 15th a very enjoyable excursion took place to Bordighera, where a sumptuous luncheon was given by the hotel keepers at the Grand Hotel, Angst, to 120 guests, followed by a drive on the hills and a garden party given by Mr. Berry at the Villa Monteverde, and afterwards a

drive to Ospedaletti, a sheltered bay between Bordighera and San Remo. A trip by steamer was arranged to Monte Carlo for the 16th. The whole of the proceedings passed off with great *éclat*.

Sir Samuel Wilks who underwent a somewhat serious operation upon May 1st is, we are glad to be able to state, progressing favourably.

FREEMASONRY.—Dr. Samuel West, F.R.C.P., and Dr. Charles Wells have had the honour of being appointed Grand Officers of the United Grand Lodge of England.

PRESENTATION TO A MEDICAL PRACTITIONER.—At the distribution of certificates to the Dartmouth corporation fire brigade class of the St. John Ambulance Association on April 25th Mr. John Henry Harris, M.D. Durh., M.R.C.S. Eng., L.S.A., was presented with a silver cigarette case as a mark of appreciation of his services as honorary instructor.

THE ROYAL SANITARY INSTITUTE.—A discussion will be held in the Music Hall, Shrewsbury, on Saturday, May 23rd, at 11 A.M., on "The Inspection of Dairies and Cowsheds," which will be opened by Mr. T. W. H. Garstang, D.P.H., medical officer of health, Bucklow R.D.C., under the chairmanship of Colonel J. Lane Notter, R.A.M.C., deputy chairman of the council of the Institute. General discussion is invited. In the afternoon a visit will be made to the Shrewsbury Sewage Farm.

DONATIONS AND BEQUESTS.—The late Mr. C. E. Gael, of Charlton Kings, Gloucestershire, has bequeathed £500 each to the Cheltenham General Hospital, the Delancey Fever Hospital, and the Cheltenham Eye, Throat, and Ear Hospital.—£2300 have been received already towards the fund for reducing the debt of the Royal Devon and Exeter Hospital. This includes £1000 from the late Mr. R. Wood of Sidmouth, £1000 from Mrs. Nosworthy of Dawlish, and £20 from Viscount Sidmouth.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.—In response to the desires of a number of school medical officers arrangements are being made for a short course of lectures and demonstrations to be given in London during Whit-week. Dr. James Kerr, Dr. H. Meredith Richards, Dr. C. J. Thomas, and other experienced medical inspectors have already promised to give addresses, and demonstrations of the details of actual medical inspection will also be arranged. School medical officers desiring to avail themselves of the course are requested to communicate with Mr. W. A. Lawton, at the offices of the Incorporated Society of Medical Officers of Health, 1, Upper Montague-street, Russell-square, London, W.C.

THE HERTFORD GENERAL INFIRMARY AND DR. J. T. TASKER-EVANS.—On April 30th a testimonial, which had been subscribed for by the governors and supporters of the Hertford General Infirmary, was presented to Dr. J. T. Tasker-Evans upon his retirement from the post of honorary medical officer after 29 years' service. The presentation took the shape of a silver tea and coffee service and silver electro-plated tray, with a cheque for 40 guineas, whilst a gold necklet was presented to Mrs. Tasker-Evans. It is worthy of note that during the course of the proceedings reference was made to a proposal to substitute for the name "Infirmary" the word "Hospital." Unfortunately, in the lay mind the name "Infirmary" is associated with Poor-law charity and it would no doubt be of great advantage to the institution in question if the name were changed as suggested.

LONGEVITY.—The Rev. Thomas Lord, Congregational minister of Horncastle, Lincolnshire, has recently celebrated the hundredth anniversary of his birthday, having been born at Olney, Buckinghamshire, on April 22nd, 1808. Mr. Lord is said to take a two-mile walk every day. For 75 years he has been connected with the temperance movement and about a month ago he preached the Band of Hope anniversary sermons at Wainfleet. He has been married three times but is now a widower and resides with his daughter and son-in-law, Mr. and Mrs. C. M. Hodgett. He has been a lifelong non-smoker.—Lord Gwydyr has recently completed his ninety-eighth year, having been born in 1810. He is High Steward of Ipswich, in the neighbourhood of which he resides, and was for many years chairman of the Suffolk quarter sessions. From 1833 to 1870 he was secretary to the Lord Great Chamberlain. He has one son who is himself a grandfather.

ROYAL MICROSCOPICAL SOCIETY.—At a meeting of the Royal Microscopical Society held on April 15th a communication by Mr. J. Strachan on Dendritic Growths of Copper Oxide in Paper was read by Mr. Shillington Scales. Minute particles of copper were found in all kinds of paper, whether composed of linen, esparto grass, or wood pulp, and had no doubt been abraded from the paper-making machinery. The dendritic formation was due to partial solution of those particles and subsequent deposition of insoluble oxide. Mr. F. Enock delivered a lecture on Nature's Protection of Insect Life, illustrated by lantern slides taken by three-colour photography.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The next general or quarterly meeting will be held at 11, Chandos-street, Cavendish-square, London, W., on Tuesday, May 19th, under the presidency of Dr. P. W. Macdonald, at 3 P.M. A paper and lantern demonstration on Some Points in the Histology of Lymphogenous and Hæmatogenous Toxic Lesions of the Spinal Cord will be given by Dr. David Orr and Dr. R. G. Rows. A discussion will be introduced by Dr. D. G. Thomson on the Teaching of Psychiatry. Members will afterwards dine together at the Café Monico, Piccadilly-circus, W., at 7 o'clock, when it is hoped that as many as possible will join. The price of the dinner, exclusive of wine, will be *7s. 6d.* Evening dress optional.

THE CHEMISTS' EXHIBITION.—Once again this exhibition is being held in its old quarters at the Royal Horticultural Hall, Vincent-square, Westminster. The stalls are as attractively arranged as usual, and although perhaps there is no special novelty of a striking character shown yet on all sides are found exhibits that appeal not only to members of the drug and allied trades but also fulfil the useful function of bringing before the notice of members of the medical profession the many modifications in the methods of putting up some of the older drugs, whilst at the same time the exhibits illustrate by practical example many of the newer forms of medicaments. The feature that impresses itself most on a visitor is perhaps the great advance that has been made during recent years in the methods of administration of nauseous drugs which have now been converted by the skill of the mixer and compounder into almost attractive sweetmeats. The exhibition opened on Monday and will close to-day (Friday).

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Education of Afflicted Children in Ireland.

MR. CHARLES CRAIG has introduced a Bill into the House of Commons "to provide for the better education of afflicted children in Ireland."

Medical Inspection of School Children in Scotland.

The Scotch Education Bill, which has received a second reading in the House of Commons, contains a clause that school boards in Scotland "may and where required by the department shall provide" for the medical examination and supervision of the pupils attending schools within their districts on lines laid down by the Scotch Education Department. For the purposes of this inspection the boards are authorised to appoint such medical officers as may be necessary. Several speakers in the course of the debate expressed satisfaction that the Government had dealt with this subject in the Bill.

HOUSE OF LORDS.

WEDNESDAY, MAY 6TH.

Official Directory of Nurses Bill.

Lord BALFOUR of BURLEIGH moved the second reading of the Official Directory of Nurses Bill. He explained that after a nurse had left a hospital and set up in practice there was often great difficulty in ascertaining what were her qualifications. His Bill therefore provided that there should be an official directory in which should be inserted the names of nurses with such particulars as the Privy Council might direct. The Bill set forth that "every nurse who has received training in nursing at a hospital, infirmary, or other institution for the cure of the sick in Great Britain or Ireland, and not being an institution carried on for private gain, shall be entitled, on application to the Registrar, to have his or her name entered in the Directory, together with such particulars as shall

be prescribed by an Order of His Majesty in Council as in this Act provided." He explained that there had been a divergence of opinion on this matter and that another scheme for the registration of nurses was in the field. He argued that it was impossible in the present state of public opinion to have a register of nurses analogous to the Medical and Dental Registers and that there should be penalties on those who not being on the register practised as nurses.

Lord AMPTHILL moved the rejection of the Bill on the ground that its provisions were opposed by the medical and nursing professions. A movement was initiated 20 years ago to obtain State registration of nurses and that had received the assent of the whole medical profession and the great body of nurses. The principle of State registration was approved of by the General Medical Council and the British Medical Association. Lord Balfour's Bill did not provide for a proper standard of training. It did not provide proper representation of the nurses and the medical profession. Its promoters had deliberately refrained from getting the views of the professions concerned. Its object was to put an obstacle in the path of legislation on the principles laid down by a Select Committee of the House of Commons and embodied in a Bill now before that branch of the Legislature.

The Earl of CREWE (speaking after considerable discussion had taken place) said that the question involved was not so simple as might appear. It might be a question of Lord Balfour's Bill or nothing at all. The passage of a Registration Bill was by no means so easy as Lord Ampthill and others might have the House believe. As Lord President he had had two difficulties brought before him. One referred to machinery, and it was difficult to get over. The medical profession on the one hand and the nursing profession on the other insisted that its profession must have the majority on the council which would be formed. That was a difficulty which, so far as he knew, had been by no means solved. There was another difficulty. How were they to provide registration as a guarantee of permanent efficiency? He was heartily in favour of the principle of registration, but he did not see a prospect of any Registration Act being passed within the next few years, not merely on account of Parliamentary difficulties but also on account of the inherent difficulties which he had mentioned. He regarded Lord Balfour's Bill as a step in advance and he could not see that it was an obstacle to registration in the future. He would vote for the second reading.

After further discussion the House divided when there voted:

For the rejection	53
Against	20
Majority for rejection	33

The Bill was accordingly rejected.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 29TH.

The Cost of Medical Inspection of Schools.

Mr. PIKE PEASE asked the President of the Board of Education whether he would lay upon the table an authorised copy of his recent statement as to the costs of medical inspection in elementary schools.—Mr. RUNCIMAN answered: I think the only point of public interest in the statement to which the hon. Member refers was to the effect that at a time when the amalgamation of the existing grants is to be undertaken, the Government could not propose a special grant for medical inspection or any increase in exchequer aid towards the expenses of local education authorities under the Elementary Education Acts in anticipation of the additional sum to be provided in connexion with the Education Bill now before Parliament.

The Law Relating to Coroners.

Sir WILLIAM COLLINS asked the Secretary of State for the Home Department whether, in connexion with the proposed reforms in the law relating to coroners, he would have regard to the representations made to the Lord Chancellor on this subject in March, 1907, by the Medico-Legal Society and by the London County Council.—Mr. H. SAMUEL (for Mr. GLADSTONE) said in reply: My honourable friend will be aware that the subject of death certificates was fully dealt with by a Select Committee of the House of Commons which reported in 1893 and that the proposals to which he refers are substantially covered by the Committee's recommendations. The Secretary of State has under consideration, as has already been announced, the question of appointing a Departmental Committee to inquire into certain points relating to coroner's inquests and so far as the proposed reforms affect coroners they would come within its scope and form part of its investigation.

The Sale and Inspection of Foreign Milk.

Mr. JESSE COLLINGS asked the President of the Local Government Board whether in the Bill he proposed to bring forward with regard to milk-supply he could find means to provide that foreign fresh milk should not be sold in this country unless it was produced under conditions or restrictions as regards sanitation at least equal to those to be imposed on British farmers and cowkeepers.—Mr. BURNS replied: I am afraid I cannot undertake to say beforehand what provisions will be contained in the Bill I propose to introduce with regard to milk-supply.

Mr. JESSE COLLINGS further asked the President of the Local Government Board whether he had seen the statement made at the meeting of the council of the British Dairy Farmers' Association to the effect that 578 hundredweights (6473 gallons) of fresh milk were imported into the United Kingdom during the nine weeks ending Feb. 1st, compared with only 15 hundredweights (168 gallons) during the corresponding period of last year; and, if the statement was correct, whether he would say what steps were being taken to examine the quality and condition of this imported milk.—Mr. BURNS answered: According to the figures which I have obtained from the Commissioners of Customs the quantity of fresh milk imported into the United Kingdom during the nine weeks ended Feb. 1st, 1908, and during those ended Feb. 2nd, 1907, was 499 hundredweights and 94 hundredweights respectively. Samples of imported milk, as of any other milk, may be taken under the Sale of Food and Drugs Acts with a view to their being analysed and dealt with under those Acts. Moreover, samples of imported milk are from time to time taken by the officers of Customs and sent to the Government laboratory under the same Acts. If adulteration is discovered the cases are reported to the Commissioners, who institute legal proceedings where this seems to them desirable. Further, I am arranging to have some samples of imported milk examined as to bacterial contamination and the presence of dirt.

Temperance Drinks and Mortality.

Mr. BOTTOMLEY asked the Secretary of State for the Home Department whether he would grant a return showing the relative mortality of persons engaged in the manufacture of ginger-beer, lemonade, soda-water, and other aerated drinks as compared with those engaged in breweries and public-houses.—Mr. BURNS (who replied) said: I am afraid I could not assent to the proposed return. I have communicated with the Registrar-General with regard to it and I find that his records do not show separately the mortality of the persons engaged in the manufacture of aerated drinks. Consequently great labour and expense will be involved in getting the particulars necessary for arriving at this mortality. I may add that the number of persons engaged in the manufacture of aerated drinks is too small to afford a basis for trustworthy statistics. The total number of males between the ages of 25 and 65 who were so employed in England and Wales, according to the Census of 1901, was only 5587.

THURSDAY, APRIL 30TH.

The Sanitation of Whaling Stations.

Mr. CATHCART WASON asked the Secretary for Scotland what steps the Fishery Board for Scotland was taking to insist that sanitation and cleanliness should be rigorously carried out at the whaling stations and especially if masses of decaying matter would be consumed by fire or chemicals and not allowed to float about the voes, destroying the mussel beds and gravely injuring the homes of the people.—Mr. SINCLAIR replied: The duty of seeing that these stations are kept in a sanitary condition is primarily a matter for the local authority and their officers and in the event of their default it would be the duty of the Local Government Board to interfere. I may add that the by-laws framed by the local authorities for regulating the business carried on at these stations provide for the prevention of offensive material being deposited in, or allowed to escape into, the sea.

Telephone Receivers and Health.

Sir EDWARD SASSOON asked the Postmaster General whether he was aware that no restrictions existed in France as regards the choice of telephone instruments; and, in view of the danger to health involved in the use of receivers insisted upon by the Telephone Company, whether he would take steps to allow the public the same freedom of selection as is allowed in France.—Mr. BUXTON said in reply: Telephone subscribers in France are required to purchase their own telephone instruments and hence their choice is not restricted. The consequent lack of uniformity of apparatus and the great number of cheap and often inefficient instruments in use constitute one of the causes alleged for defects in the French telephone service, and I do not think that a satisfactory telephone service could be carried on in this country under such conditions. I am assured that there is no danger to health arising from the types of telephone officially provided in the United Kingdom.

Scarlet Fever at Tidworth Barracks.

Captain FABER asked the Secretary of State for War whether he could state how many cases of scarlet fever there were at present in the barracks at Tidworth, and whether the cases had been isolated; and, if not, what hospital they were in.—Mr. HALDANE (by written answer) replied: Four cases of scarlet fever had occurred at Tidworth. The cases are being treated at the isolation hospital, Bulford.

MONDAY, MAY 4TH.

National Sleeping Sickness Bureau.

Mr. REES asked the Under Secretary of State for the Colonies whether the Government had decided to establish a national sleeping sickness bureau with headquarters in London; whether a convention between Great Britain and Germany for the prevention of the spread of this malady was contemplated; and whether he could give the House any information on this subject.—Colonel SEELY replied: The answer to the first two portions of my honourable friend's question is in the affirmative. The Secretary of State hopes to be in a position to publish detailed information regarding the bureau shortly.

The Sale of Disinfectants.

Mr. REES asked the honourable Member for South Somerset, as representing the President of the Board of Agriculture, whether the Board had made an order to the effect that disinfectants, weed killers, and the like preparations were drugs within the meaning of the Sale of Food and Drugs Act; and whether it was proposed that such disinfectants, weed killers, &c., if sold by others than registered pharmacists, should have a label attached declaring their efficiency in terms of certain recognised standard tests.—Mr. J. A. PEASE answered (on behalf of Sir E. Strachey): The reply to the first part of the question is in the negative. The conditions under which the articles to which my honourable friend refers should be sold are under consideration by the Joint Committee appointed in connexion with the Poisons and Pharmacy Bill.

The Status of the President of the Local Government Board.

Mr. HAROLD COX asked the Prime Minister whether it was proposed to increase the salaries of the President of the Board of Trade and of the President of the Local Government Board; and, if so, whether this increase would be provided by a reduction of other Ministerial salaries or by increasing the burdens upon the taxpayer; and, in the latter alternative, when he proposed to ask the House to make the necessary grant.—Mr. ASQUITH said in reply: The whole question of the functions and status of these two offices is the subject of inquiry by a committee of the Cabinet, and I am not at present able to say what proposals we shall be in a position to make to Parliament.

The Confinement of Poor Women.

Mr. EUGENE WASON asked the President of the Local Government Board whether he was aware that valuable lives of poor women were sometimes sacrificed in their confinement through the absence of a medical man, owing to their inability to pay the fee for his attendance; and whether the Local Government Board would so far vary its circular of July 29th last to the boards of guardians on the Midwives Act of 1902 as to make the payment of the medical man's fee compulsory by the guardians instead of permissive, as at present.—Mr. BURNS answered: The guardians are authorised by the Poor-law Amendment Act, 1848, to pay for any medical assistance rendered to

a poor person on the happening of any sudden illness, although no order has been given for the same by the guardians or any of their officers or by the overseers. Under this provision the guardians may pay the fee of any medical man called in on the advice of a midwife to attend a woman in childbirth in any case of difficulty. The Board is not empowered to alter this provision so as to make it compulsory. Under the regulations which are in force in most of the unions, however, it is compulsory on the guardians to pay a fee to a Poor-law medical officer who is called upon to attend a woman in childbirth by order of a person legally qualified to make the order. They must also pay the fee if in circumstances of difficulty or danger he visits without any order any such woman who is actually receiving relief or who the guardians may subsequently decide was in a destitute condition.

Medical Officers and Indian Jails.

Mr. REES asked the Under Secretary of State for India whether he was aware that since the introduction of the new scale of pay for Indian Medical Service officers in charge of jails there were, at any rate in the Madras Presidency, uncovenanted officers of long service in charge of central jails who did the same administrative work as medical officers in charge of central jails, but who had not been placed on the same scale of pay for their administrative work; and would he consider whether this difference should be removed and these officers be put on the same scale of pay as medical officers in administrative charge of jails, in so far as administrative and not medical duties were concerned. —Mr. BUCHANAN replied (by written answer): The recent improvement of the pay of members of the Indian Medical Service in charge of jails was part of a general improvement of the pay of that service introduced with a view to making the service more attractive and securing more and better qualified recruits. The same considerations do not apply in the case of the officers referred to in the question who are not members of the Indian Medical Service and whose rates of pay are determined by the conditions of their own service. The Secretary of State does not, as at present advised, see sufficient reason to take any action in the matter, which is primarily one for the consideration of the Government of India.

The Belfast Health Commission.

Mr. DEVLIN asked the Chief Secretary to the Lord Lieutenant of Ireland what steps, if any, were being taken to give effect to the recommendations of the Belfast Health Commission.—Mr. BIRRELL forwarded the following written answer: The report of the Commission, which reached the Local Government Board on April 10th, is receiving the serious consideration of the Board which has forwarded copies to the Belfast corporation with a request that a special meeting of the corporation should be summoned to consider it.

TUESDAY, MAY 5TH.

Damages for a Death from Typhoid Fever.

Mr. BOTTOMLEY asked the President of the Local Government Board whether his attention had been called to a recent case in which the authorities of the Three Counties Asylum, in Bedfordshire, were sued by a Mrs. Brown, the widow of the bailiff of the Arlesey Asylum, for damages for the loss of her husband through typhoid fever, contracted owing to defective drainage, and had damages to the extent of £650 awarded against them; whether he was aware that the authorities were represented by three counsel and produced a number of eminent experts, involving a total expenditure in connexion with the proceedings of upwards of £3000; whether they were now proposing to appeal against the decision; and, if so, whether the Local Government Board would make any representation to them before further expenditure of public funds was incurred, especially in view of the fact that Mrs. Brown was a woman without means and quite unable to bear the expense of protracted legal proceedings.—Mr. BURNS replied: I have made inquiry into this matter and I understand the facts to be generally as stated in the question. I do not know the precise amount of the costs incurred in the case. I regret the expenditure involved but I am assured that every care has been taken to avoid as far as possible any unnecessary expense. Three counsel were engaged for the visiting committee, partly because their leading counsel was unexpectedly occupied in another case, and partly because the plaintiff was also represented by three counsel. The visiting committee considers that the death of the plaintiff's husband was not attributable to typhoid fever contracted owing to defective drainage, and acting on the advice of its counsel it is moving the Court of Appeal for a new trial or for judgment for the defendant. It is expected that the appeal will be heard in the course of the next few days. I have no jurisdiction which would enable me to interfere with the discretion of the visiting committee in the matter.

Typhoid Fever and Impure Water.

Mr. BOTTOMLEY asked the President of the Local Government Board whether he could state the average annual number of deaths recorded as due to typhoid fever and other diseases contracted through drinking impure water.—Mr. BURNS answered: I am not aware of any records which would give the information desired.

Legislation on Milk-supply.

Mr. COURTHORPE asked the President of the Local Government Board when the Bill dealing with the milk-supply would be introduced.—Mr. BURNS said in reply: The Bill is in preparation, but I cannot at present say when it will be introduced.

Deaths under Anæsthetics.

Mr. BRAMSDON asked the Prime Minister whether his attention had been called to the large number of deaths that occurred annually from the effects of anæsthetics administered to patients who were about to undergo, or were undergoing, operations, or after such operations had been performed; whether he was aware that there was no official record of the number of deaths that really occurred during anæsthesia, partly because such deaths were sometimes certified as due to causes other than anæsthesia, and in that case were not reported to the coroner, and partly because notification was not followed by official inquiry; whether he was aware that those persons who administered anæsthetics were not necessarily specially trained to do so or always registered medical practitioners; and whether, having regard to the greater safety of the public and for the advance of scientific medicine, he would consider the advisability of securing a more accurate and comprehensive knowledge of all the facts connected with the administration of anæsthetics, whether fatal or non-fatal, by appointing a Royal Commission with advisory powers to investigate and report upon the whole question.—Mr. GLADSTONE answered: My right honourable friend has asked me to answer this question. I have not yet completed the inquiries referred to in the answer I gave to my honourable friend on March 30th. I am not certain that a formal investigation is either necessary or desirable, but the matter is receiving careful consideration.

BOOKS, ETC., RECEIVED.

OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA, Calcutta.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. The Development of the Leishman-Donovan Parasite in Cimex Rotundatus. Second Report. By Captain W. S. Patton, M.B., I.M.S. (on Special Duty). New Series. No. 31. Price Rupee 1, or 1s. 6d.

REBMAN, LIMITED, 129, Shaftesbury-avenue, London, W.C.

Hematological Atlas. With a Description of the Technic of Blood Examination. By Priv. Doz. Dr. Karl Schleip, Scientific Assistant in the Medical Clinic, University of Freiburg i.B. English Adaptation of Text by Frederic E. Sondern, M.D., Professor of Clinical Pathology, New York Post-Graduate Medical School and Hospital; Director of Clinical Laboratory, New York Lying-in Hospital. Price 42s. net.

RICHARDS, GRANT, 7, Carlton-street, London, S.W.

The Birds of the British Islands. By Charles Stonham, C.M.G., F.R.C.S., F.Z.S. With Illustrations by Lilian M. Medland, F.Z.S. In Twenty Parts. Part X. Price 7s. 6d. net.

SPRINGER, JULIUS, Monbijouplatz, 3, Berlin, N. 24.

Die neuren Arzneimittel in der ärztlichen Praxis. Wirkungen und Nebenwirkungen, Indikationen und Dosierung. Vom k.u.k. Militär-Sanitäts-Comité in Wien preisgekrönte Arbeit. Von Dr. A. Skutetzky, k.u.k. Regimentsarzt in Mähr.-Weisskirchen. Mit einem Geleitwort von Professor Dr. J. Nevinny. Price M.7.; geb., M. 8.

Ergebnisse der Inneren Medizin und Kinderheilkunde. Herausgegeben von F. Kraus, O. Minkowski, Fr. Müller, H. Sahli, A. Czerny, und O. Heubner. Redigiert von Th. Brugsch, Berlin; L. Langstein, Berlin; Erich Meyer, München; und A. Schittenhelm, Erlangen. Erster Band. Price M.18.-; in halbleder geb., M.20.50.

THURNAM, CHARLES, AND SONS, Carlisle. (SIMPKIN, MARSHALL, AND CO., London.)

Careers for Our Sons. A Practical Handbook to the Professions and Commercial Life. By Rev. George H. Williams, M.A. Oxon., Headmaster of Carlisle Grammar School, Member of the Carlisle Education Authority, Member of the Headmasters' Conference. With a Preface by the Rt. Hon. Lord Morpeth, M.P. Price 4s. 6d. net; post free 5s.

VOGEL, F. C. W., Leipzig.

Spezielle Diagnose der Inneren Krankheiten. Ein Handbuch für Aerzte und Studierende. Nach Vorlesungen bearbeitet von Dr. Wilhelm v. Leube, Professor der Mediz. Klinik und Oberarzt am Juliusspital in Würzburg. II. Band. Siebente vollständig umgearbeitete Auflage. Price M.16.

Die Lehre von der Intubation. Von Prof. Dr. J. von Bókay, Direktor des "Stefanie" Kinderspitals zu Budapest, Ehrenmitglied der "Moskauer kinderärztlichen Gesellschaft," korrespondierendes Mitglied der "Société de Pédiatrie" in Paris und der "Aerztlichen Akademie" in Rom. Price M.10.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

CARLYLE, OLIVER, L.R.C.P. & S. Edin., has been appointed House Surgeon to Salford Royal Hospital.

CARSTAIRS, J. LINDLEY, M.B., C.M. Glasg., has been appointed Assistant Obstetric Physician to the Maternity and Women's Hospital, Glasgow.

CHAPMAN, J. S., M.B., B.S. Aberd., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Turriff District of the county of Aberdeen.

JOHNSTON, D. J. G., M.B., B.S. Aberd., has been appointed Assistant Medical Officer of Health of Ipswich.

MATHIESON, D. MORLEY, M.B., Ch.B. Edin., D.P.H., has been appointed School Medical Officer and Assistant Medical Officer of Health of the City and County of Norwich.

SCOTT, JAMES, M.B., Ch.B. Edin., has been appointed Senior House Surgeon at the Bolton Infirmary and Dispensary.

STAMP, WILLIAM DANIEL, M.R.C.S., L.R.C.P., L.M. Edin., has been appointed Deputy Medical Officer to the Workhouse and Northern District by the Plympton St. Mary (Devon) Board of Guardians.

STIRK, PERCY HERBERT, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Inspector of Schools by the Exeter Education Committee.

WILMOT, E. DARWIN, M.B., Ch.B. Edin., has been appointed Junior House Surgeon at the Bolton Infirmary and Dispensary.

WRIGHT, O. KENTISH, M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer to the City of Nottingham Isolation Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANGOR, CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House Surgeon. Salary £80 per annum, with board, washing, and lodging.

BENENDEN SANATORIUM.—Medical Superintendent. Salary £250 per annum, with board, lodging, and attendance.

BIRMINGHAM, EAR AND THROAT HOSPITAL, Edmund-street.—House Surgeon. Salary at rate of £70 per annum.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, &c.

BRISTOL GENERAL HOSPITAL.—Assistant House Physician. Salary £60, with board, residence, &c.

CARDIFF INFIRMARY.—Senior Resident Medical Officer. Salary £120 per annum, with board, washing, and apartments.

CARLOW DISTRICT ASYLUM.—Resident Medical Superintendent. Salary £350 per annum and allowances.

CARMARTHENSHIRE, WEST WALES SANATORIUM, Allitymynydd.—Medical Superintendent. Salary £200 per annum, with board and residence.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Physician to Out-patients. Also Clinical Assistant.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—Two Assistant Physicians.

CLINICAL RESEARCH ASSOCIATION.—Assistant Director of the Laboratory. Salary £250 per annum.

CROYDON BOROUGH HOSPITAL FOR INFECTIOUS DISEASES.—Senior Resident Medical Officer and Bacteriologist. Salary £160 per annum, with board, lodging, and washing.

DERBYSHIRE ROYAL INFIRMARY.—House Surgeon. Salary £100 per annum, with apartments, board, &c. House Physician. Salary £100 per annum, with apartments, board, &c.

DRIFFIELD UNION.—Medical Officer and Public Vaccinator. Salary £48 per annum, and fees.

DUMFRIES, CRICHTON ROYAL INSTITUTION.—Two Resident Clinical Physicians. Salary at rate of 50 guineas per annum, with board, rooms, and laundry.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £40 per annum, with board and lodging.

EDINBURGH, CITY OF.—Medical Officer of Health. Salary not less than £800 per annum.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Physician, unmarried. Salary £60 per annum, with board, lodging, and washing.

FERMANAGH COUNTY HOSPITAL, Enniskillen.—House Surgeon.

GLOSSOP, BOROUGH OF, EDUCATION COMMITTEE.—Medical Inspector of School Children. Salary £80 per annum.

GREAT NORTHERN CENTRAL HOSPITAL.—Clinical Assistant in the Ear, Throat, and Nose Department.

GREENWICH UNION INFIRMARY AND WORKHOUSE.—Junior Assistant Medical Officer. Salary £100 per annum, with apartments, rations, and washing.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100, with board, residence, and laundry.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, and washing.

HUDDERSFIELD LOCAL EDUCATION AUTHORITY.—School Medical Officer. Salary £300 per annum.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £80 per annum, with board, residence, &c.

KING EDWARD VII. SANATORIUM, Midhurst, Sussex.—Senior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and attendance.

LEEDS GENERAL INFIRMARY.—Resident Medical Officer. Salary £150 per annum, with board, residence, and washing. Also Resident Ophthalmic Officer. Salary £100 per annum, with board, residence, and washing.

LEEDS TUBERCULOSIS ASSOCIATION SANATORIUM, Gateforth, near Selby.—Resident Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

LEICESTER INFIRMARY.—House Physician. Salary at rate of £100 per annum, with board, lodging, and washing.

LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—House Surgeon, non-resident, for six months. Salary £50 per annum.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Two House Surgeons as Senior and Junior, for six months. Salary of former at rate of £100 per annum, and of latter at rate of £80 per annum.

NEW HOSPITAL FOR WOMEN.—House Physician. Also Resident Medical Officer (females).

NORTHAMPTON GENERAL HOSPITAL.—Two Honorary Anæsthetists.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing. Also Assistant House Surgeon for six months. Salary £20, with board, lodging, and washing.

NOTTINGHAM CITY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, &c.

NOTTINGHAM GENERAL HOSPITAL.—Locum Tenens for three and a half months. Salary £45, with board, lodging, and washing.

ORKNEY, PAPA WESTRAY PARISH COUNCIL.—Medical Officer and Public Vaccinator female). Salary £85 per annum, with fees.

PLAISTOW FEVER HOSPITAL, London, E.—Second Assistant Medical Officer, unmarried, for six months. Salary at rate of £100 per annum, with rooms and board.

ROYAL EAR HOSPITAL, Dean-street, Soho.—House Surgeon. Salary £40 per annum.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Clinical Assistant in the X Ray Department, Assistant to the Clinical Pathologist, and Assistant Anæsthetists (females).

ST. MARY'S HOSPITAL, London, W.—Assistant Surgeon for Diseases of the Ear, Nose, and Throat.

SHEFFIELD UNION HOSPITAL, Fir Vale.—Resident Assistant Medical Officer, unmarried. Salary £100 per annum, with apartments, rations, &c.

SHREWSBURY, SALOP INFIRMARY.—House Physician. Salary at rate of £60 per annum, with board and apartments.

SOCIETY OF APOTHECARIES OF LONDON.—Examiners in Medicine and Surgery.

SOUTHAMPTON FREE EYE HOSPITAL.—House Surgeon. Salary £70 per annum, with board, apartments, and laundry.

STONE, NEAR AYLESBURY, BUCKS COUNTY LUNATIC ASYLUM.—Assistant Medical Officer. Salary £150 per annum, with board and apartments.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £75 per annum. Also House Physician. Salary £75 per annum.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging.

WAKEFIELD, CLAYTON HOSPITAL.—Junior House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

WANDSWORTH UNION INFIRMARY, St. John's Hill, near Clapham Junction.—Junior Assistant Medical Officer, unmarried, for six months. Salary at rate of £120 per annum, with board, lodging, and washing.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith, W.—House Physician for six months. Board, lodging, and laundry.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Junior House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

WORCESTER, CITY OF.—Assistant Medical Officer. Salary of £200 per annum.

YORKSHIRE, NORTH RIDING EDUCATION COMMITTEE.—Medical Inspector. Salary £250 per annum and expenses.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Ongar, in the county of Essex; and at Queensbury, in the county of York.

Births, Marriages, and Deaths.

BIRTHS.

DICKSON.—On April 25th, at Preston View, Dyke-road-drive, Brighton, the wife of William L. Dickson, M.R.C.S., L.R.C.P., of a son.

KENDREW.—On April 29th, at Lissenden Mansions, Lissenden Gardens, London, N.W., the wife of A. J. Kendrew, L.R.C.P., M.R.C.S., of a daughter.

OSBORN.—On May 5th, at Ennismore Lodge, Park Avenue, Dover, the wife of Francis Arthur Osborn, L.R.C.P. Lond., M.R.C.S. Eng., of a daughter.

REDMAYNE.—On April 30th, at Warrior-square, St. Leonards-on-Sea, the wife of Thomas Redmayne, F.R.C.S., of a daughter.

WATCH.—On April 29th, 1908, at Richmond-road, Pontnewydd, near Newport, Mon., the wife of Norman B. Watch, L.R.C.P. & S.E., L.F.P.S.G., of a daughter.

WATSON.—On May 2nd, at Oriel House, Leigh-on-Sea, Essex, the wife of W. Douglas Watson, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

WILLIAMSON.—On April 27th, at Leicester, the wife of Lieutenant-Colonel J. G. Williamson, R.A.M.C. (retired), of a daughter.

MARRIAGES.

DODWELL—ROBERTSON.—On April 30th, at All Saints', Upper Norwood, Philip Rashleigh Dodwell, M.D., to Jessie, widow of Lieutenant-Colonel F. W. Robertson, Royal Sussex Regiment.

FITZWILLIAMS—FILLEY.—On April 29th, at St. Columba's, Pont-street, Duncan Campbell Lloyd Fitzwilliams, M.D., Ch.M., F.R.C.S. Edin. & Eng., to Mary Elizabeth Filley, eldest daughter of the late Oliver B. Filley and Mrs. Filley, of Winyates, Sherborne, Massts., U.S.A.

MORE—DRYLAND.—On April 29th, at the parish church, Kettering, by the Rev. P. M. Smythe, Rector, assisted by the Rev. J. Arthur M. Morley, Vicar of Rothwell, and the Rev. Ambrose Lethbridge, Chaplain of Guy's Hospital, London, John More, eldest son of the late Dr. James More, Rothwell, to Mabel Winter, second daughter of the late Dr. John Winter Dryland, Kettering.

THOMAS—PRICE.—On April 29th, at St. Peter's Church, Carmarthen, by the Lord Bishop of Swansea, assisted by the Rev. D. T. Alban, B.A., Frank G. Thomas, B.A., M.B. Cantab., to Florence M. S. Price, M.B., Ch.B., elder daughter of Dr. and Mrs. Price, Carmarthen.

DEATH.

LAVER.—At 3, Church-street N., Colchester, on May 4th, 1908, Constance Mary (May) Laver, wife of Philip Laver, M.R.C.S., &c., and only daughter of Bv.-Col. Cecil Conor, late commanding 1st Duke of Wellington's Regiment.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

SOME MEDICAL MATTERS ILLUSTRATED UPON ANCIENT EGYPTIAN MONUMENTS.

A MAGNIFICENT Egyptological work entitled "Une Rue de Tombeaux à Saqqarah," just published by M. Jean Capart, conservator of the Egyptian collection in the Brussels Museum, in two of the 107 photographs of sepulchre reliefs presents scenes of much interest to the medical profession. One of these plates, No. 41, gives a clearly carved portrait figure of one of those steatopygous dwarfs whom we know the ancient Egyptians used to employ as dancers, and perhaps also as clowns, to amuse guests at entertainments and who are supposed to be identical with those imported slaves called Dangas whom their hieroglyphical inscriptions tell us they obtained from Southern Nubia.

The peculiar bodily form of these individuals associates them closely with the pygmies, though Professor Naville, a very great authority, thinks that the diminutive pygmies were distinct from the persons with marked steatopygia, considering the latter not so much as a race possessing this malformation but as individual members of this special physical type who occurred sporadically among tribes the majority of whose members were perhaps similar to the ordinary negro. The figure engraved upon the wall of a tomb at Saqqarah, photographed by M. Capart, is certainly intended as that of a native of Central Africa and of negroid affinity, because he is a tribute bearer and as his contribution carries an African ape upon his shoulder. The breast is so prominently shown that the figure may be intended for that of a female, but the abdomen is not so protuberant as in some of these ancient Egyptian figures. The buttocks, however, are so, and all the limbs are extremely large in girth although short, the legs especially being quite disproportionately so.

It is well known that the physical characteristics of this type of mankind were transferred to the figure of the extremely ancient Egyptian deity Bes, or Besa, and from him to the Hellenic Gorgoneion type of Hercules, and thence to Silenus who was connected with Priapus and other phallic deities. The figures of Bes are frequently of an ithyphallic character. Whether all specimens of such varieties of the human type upon Egyptian monuments represent persons who possessed such peculiarities from birth, or sometimes those who subsequently attained them through arrested development, or some disease peculiar to the negroid race, somewhat of the character of elephantiasis, is a matter for discussion. To arrive at a wise decision all monuments of people presenting such characteristics should be published together and any texts relating to them in the Egyptian records should also be edited with them.

The other photograph of a relief which is interesting to the medical profession is that depicting the circumcision of a youth. The operation is shown in two tableaux, probably separated by an interval of some days. In the first the patient is erect, whilst an assistant in his rear holds up his hands so as to cover his eyes, perhaps to prevent his seeing what is being done. The instrument with which the operator—apparently a priest—is about to cut the prepuce has an oval form but is divided into two parts by a central line down the longer axis, so that if with Professor Max Müller, the Egyptologist, we see in the blade a knife of silex it was secured in a handle. The hieroglyphic determinative for the word for circumcision was a semicircle, and M. Capart suggests that this is intended for the fragment of skin removed by the rite. The second act of the operation was evidently less painful, for the young man is not held by the attendant, and indeed places his hand caressingly upon the operator's head, who is furnished with a differently shaped instrument which is not very clearly shown, and says to the youth in the rubrical text: "This is to do you good." What he was doing is perhaps explained in the rest of the inscription which may be translated, "to clean, to shave, to anoint." The Egyptian word is often used in those senses in ancient Egyptian medical works, though Professor Max Müller renders it doctor, but the word for doctor, ordinarily at any rate, is quite differently spelled. Neither have we any text on monuments, or papyri, suggesting that medical men were employed for circumcising. The act belonged perhaps to the priests or embalmers, if not, as in our time in Eastern lands, to the barbers. M. Capart concludes his remarks upon the subject by quoting the signboard of a barber at Assouan to-day which asserts that the shopkeeper is a hair-cutter, "practises circumcision, cures minor venereal complaints, and regenerates the blood." M. Capart's book, which is published by Vromant of Brussels, may be obtained of H. Greuel and Co. of London.

ACUTE DELIRIOUS MANIA AND ACUTE MANIA.

To the Editor of THE LANCET.

SIR,—Are the essential differences between the above complaints known to all medical men? My experience of a recent case leads me to suppose that they are not known as widely as they should be. The best description of acute delirious mania that I know of may be found in "Quain's Dictionary of Medicine" in the article "Mania" by Dr. G. F. Blandford. The opening words of Dr. Blandford's article are: "Acute delirious mania or maniacal delirium—whichever we prefer to call it—is something quite distinct from that ordinarily known as acute mania. The *symptoms are much graver*, the course is briefer and more defined, and *the treatment of the one would be quite inappropriate to the other.*" (The italics are mine.) The essentials of the treatment of acute delirious mania (which may safely be undertaken in many private houses) are the procuring sleep as soon as possible (opium is inadmissible), feeding, and very skilful kindly nursing. It may be remarked in passing how often an ignorant nurse will irritate a mental case by "keeping the patient quiet" as she calls it. Any sudden movement of arm or leg is pounced upon and the bed-clothes are immediately tucked in. If the patient tries to get out of bed he is immediately forced back again. Any sufferer from nervous insomnia who has experienced the relief gained by pacing the room will sympathise with the instinctive desire of a sufferer from acute delirious mania to get up occasionally and move about. It is indeed a peculiarity of the complaint that the patient objects to lie on an ordinary bed, but *will* lie on a mattress on the floor. Again, in the important matter of feeding, a tactful nurse will coax the patient to take food which is otherwise refused. I have no statistics showing whether cases of acute delirious mania are on the increase, but if any medical man who reads this communication is not conversant with the differences which distinguish this disease from ordinary acute mania, he should get up the subject. Treatment suitable for the last-named disease may lead to a fatal issue if applied in a case of acute delirious mania.

I am, Sir, yours faithfully,

April 26th, 1908. EDWARD A. OPIE.

THE NEED FOR MORE MOTOR AMBULANCES.

AT a recent inquest held by Dr. F. J. Waldo at Southwark invidious comparisons were drawn between the steps taken for the provision of mechanically driven ambulances in the City and the want of them often experienced in London outside its limits. The authorities who govern the City were referred to in complimentary terms by the coroner as pioneers in many matters and the particular instance in which their public spirit was praised is one of increasing importance in view of the dangers of our streets and of our industrial life which cannot be said to have diminished in recent years. In the case before the jury the deceased had fallen under the wheels of a lorry in East-street, Walworth-road, and the policeman who wheeled him on a hand ambulance to Guy's Hospital, where he succumbed to his injuries, had taken half an hour in doing so. As in such cases life may sometimes be saved by surgical aid promptly applied, and in the rendering of which every minute is of importance, the subject is one to which coroners may usefully direct the attention of the public.

A COINCIDENCE IN INVENTION.

To the Editor of THE LANCET.

SIR,—As makers of Mr. Seymour Stritch's pessary which called forth Mr. Hughes R. Davies's courteous letter and Mr. Stritch's reply thereto under this heading (published in THE LANCET of March 14th and 28th), will you allow us to briefly explain that there are inadvertences in both?

There is an essential difference between these two instruments. In Mr. Davies's pessary he claims much for its permanent oscillatory movement through 75° to 90°, whereas Mr. Stritch instructed us that subsequent fixation of his uterine support upon its stem was essential, contending that, in the case for which he was seeking support, anything but absolute fixation would render the instrument imperfect as it would allow some measure of prolapse of the womb and perhaps of the bladder also. This necessary fixation is brought about by a mechanism which, as far as we can trace, is original.

Personally we know of Mr. Davies's pessary, having procured them from time to time from the makers, Messrs. Krohne and Sesemann, and but for Mr. Stritch's express instructions as to fixation we should certainly have suggested to him a trial of Mr. Davies's instrument. The questions of giving fixation, or movement, will, we think, not be without interest, as any suggestion towards helping these troublesome cases is, in our experience, always welcomed by the profession. With Mr. Stritch's sanction we beg you to favour us by publishing this explanation.

We are, Sir, yours faithfully,

April 23th, 1908. DOWN BROS., LTD.

POST-GRADUATE STUDY.

IN answer to our correspondent "Equator" we think that he would find he could do more post-graduate work in surgery in this country than he could on the continent, though possibly the arrangements here are not so convenient as those at continental centres where they make more arrangements for "six-week courses" than is the custom in this country. Our correspondent might apply to the Post-Graduate Association, Examination Hall, Victoria Embankment, London, W.C., which includes a number of general and special hospitals, to the Medical Graduates' College and Polyclinic, 22, Chenies-street, Gower-street, W.C., to the West London Post-Graduate College, West London Hospital, and to the hospitals of the Seamen's Society (address, the Secretary, Seamen's Hospital, Greenwich, S.E.). There are also various post-graduate classes held in different provincial centres such as Birmingham, Liverpool, Manchester, and others. In Scotland,

Edinburgh and Glasgow have elaborate post-graduate courses. The post-graduate courses at various continental centres such as Paris, Berlin, Vienna, Milan, and Budapest were described in volume ii. of THE LANCET of 1903, and in THE LANCET of Sept. 21st, 1907, a correspondent wrote to us saying how much he had been impressed by the post-graduate course at Hamburg. Two courses are held at the hospitals yearly, the one generally in March and the other generally in August.

PLOMBIÈRES AND COLITIS.

To the Editor of THE LANCET.

SIR,—I should be grateful if any of your readers would give me information as to the "colitis cure" at Plombières and the cost of living, &c., at that place during the season.

I am, Sir, yours faithfully,

April 30th, 1908. ENQUIRER.

DELAYED SPEECH.

A MEDICAL man writes: "I have had brought to my notice the case of an infant of two years and a quarter old who manifests no desire to speak. The child is quite intelligent, not deaf, well-grown, and good looking. I should be obliged for any information or for reference to any literature bearing on the subject."

RAILWAY MEN AND SAFETY APPLIANCES.

A CORRESPONDENT calls our attention to the delay in the introduction of automatic couplings upon British railways, and generally to the subject of unnecessary accidents happening to railway servants owing to lack of mechanical appliances to minimise the risks inherent to their employment. He mentions that on the continent delegates representing various State and private railways meet annually at Berne with a view to standardising the equipment of their rolling-stock and to the obtaining of safety for those employed upon their lines, and he reminds us that Mr. Lloyd George, who appointed in 1906 a Railway Safety Appliance Committee, now leaves the carrying out of steps which he has initiated to his successor, Mr. Winston Churchill. The matter is, no doubt, one of great importance both to the men who have ample means of making known through their organisations any opinions as to which they are unanimous and to their employers who have to consider the financial and other aspects of all changes proposed.

Dr. C. Ormerod.—The treatment in question is the usual quack formula: no medical opinion upon its utility can be forthcoming as long as its constitution remains a secret. Correspondence in our columns shows that the claims made for the treatment are unsubstantiated, as might have been expected.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—Stephen Paget, H. F. Waterhouse): at 5.30 P.M.

Papers:

Mr. J. Crawford Renton: Sciatica and its Surgical Treatment.

Mr. F. C. Wallis and Dr. W. Ironside Bruce: The Treatment of Ulcerative Proctitis by Zinc Kataphoresis.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—H. Beckett-Overy, W. J. Gow): at 7.45 P.M.

Paper:

DR. R. H. Paramore: The Supports of the Female Pelvic Viscera.

N.B.—This paper will not be read but an abstract will be given and a discussion will take place in which leading anatomists and gynæcologists have already promised to take part.

Copies of this paper are now ready and can be obtained from the Secretaries, 20, Hanover-square.

Specimens:

Dr. Nepean Longridge: Visceral Hæmorrhages in New-born Infants.

Dr. Herbert Williamson: Womb-stone (sent by Dr. Preston Maxwell, China).

Mr. J. Bland-Sutton: (1) Two Examples of the Encapsulation of Sterile Fluid in connexion with the Fallopian Tubes and the Ovary; (2) Sarcoma of the Uterus.

Mr. J. D. Malcolm: A Malignant Ovarian Tumour and Part of a Malignant Sigmoid Flexure removed by Operation.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

ELECTRO-THERAPEUTICAL SECTION.—The next meeting will take place on May 22nd in the Rooms of the Royal Philosophical Society, Glasgow. Members who wish to attend and who desire to avail themselves of local hospitality should communicate with Dr. Reginald Morton, honorary secretary, in order that the necessary arrangements may be made in good time.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8 P.M., General Meeting. 8.30 P.M., Mr. D'Arcy Power: Recent Advances in the Surgical Treatment of Syphilis.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

THURSDAY.—8.30 P.M., Lieut.-Col. A. Duncan, I.M.S. (retired): On the Effects of Heat in the Tropics and their Treatment.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 20, Hanover-square, W.

WEDNESDAY.—8.30 P.M., Adjourned Discussion on Dr. Prout's paper on the Rôle of Filaria in the Production of Disease. Dr. J. P. Maxwell (Amoy): The Use of Quinine during Pregnancy, Labour, and the Puerperium.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

WEDNESDAY.—8 P.M., Mr. C. Beadle: The Underground Water Supplies of the Thames Basin.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. W. Fox: Clinique (Skin). 5.15 P.M., Lecture:—Dr. J. E. Squire: Hæmoptysis, its Significance and Treatment.

TUESDAY.—4 P.M., Dr. W. Kwart: Clinique (Medical). 5.15 P.M., Lecture:—Mr. G. F. Still: Infantile Marasmus.

WEDNESDAY.—4 P.M., Mr. P. Daniel: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. W. H. Clayton-Greene: Abdominal Injuries.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. C. O. Hawthorne: The Diagnosis of Functional Nervous Disease.

FRIDAY.—4 P.M., Dr. W. J. Horne: Clinique (Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith road, W.

MONDAY.—12 noon, Lecture:—Dr. Low: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Davis: Diseases of the Pharynx.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Pardoe: Stricture of the Urethra.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. 12 noon: Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Beddard: Medicine.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Davis: Eustachian Obstruction and its Results.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12 noon, Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Pritchard: Clinical Pathology as an Aid to Diagnosis.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children, 2 P.M., Medical and Surgical Clinics X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Medical Out-patient (Dr. Whipham); Nose, Throat, and Ear (Mr. Carson); X Rays. 4.30 P.M., Medical In-patient Clinic (Dr. Whiting).

TUESDAY.—Clinic:—10 A.M., Medical Out-patient (Dr. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Clinics:—Surgical (Mr. Edmunds); Gynæcological (Dr. Giles).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. Whipham); Skin (Dr. Meachen); Eye (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations. (Dr. Giles). Clinics:—Medical Out-patient (Dr. Whiting); Surgical (Mr. Carson); X Rays. 3 P.M., Medical In-patient (Dr. Chappel).

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. J. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Clinics:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Mr. L. A. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. Special Lecture:—4 P.M., Mr. Lawrence: Otitis Media.

TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. Carless: The Treatment of Spinal Caries.

WEDNESDAY.—2.15 P.M., Dr. R. Wells: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical, 11 A.M., Eye.

THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Pirie. Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical 12 noon, Ear and Throat.

FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Dr. R. Bradford: Ascites.

SATURDAY.—2.30 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY AND FRIDAY.—3.30 P.M., Lecture:—Dr. G. Stewart: Syphilis of the Nervous System.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), West London (2.30 P.M.).

TUESDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (13th).—St. Bartholomew's (1.30 P.M.), University Colleg (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cros (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2 30 P.M.).

THURSDAY (14th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2 30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (16th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 7th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 1	30·18	W.	0·09	121	74	52	57	61	Cloudy
,, 2	30 08	S.E.	...	100	73	57	58	59	Hazy
,, 3	30 01	E.	...	68	52	50	50	50	Raining
,, 4	29 77	S.E.	0·33	97	62	50	50	50	Overcast
,, 5	29 56	S W.	...	82	58	50	51	54	Raining
,, 6	29 39	S.	0·12	89	60	53	52	54	Cloudy
,, 7	29 85	W.	0·01	105	60	46	48	53	Fine

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